THE FLORA OF CURAÇAO, ARUBA AND BONAIRE

BY

I. BOLDINGH,
Phil. Nat. Dr.

BOEKHANDEL EN DRUKKERIJ
voorheen
E. J. BRILL — LEIDEN
1914.

THE FLORA OF THE DUTCH WEST INDIAN ISLANDS.

II. The Flora of Curaçao, Aruba and Bonaire.

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SECOND VOLUME
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PREFACE.

In continuation of his voyage to the Dutch West Indian Islands St. Eustatius, Saba and St. Martin, about which particulars are to be found in the first part of the Flora of the West Indian Islands [1], the author undertook a second voyage in 1909—1910 in order to study the flora of the Islands Curaçao, Aruba and Bonaire.

It was again on the suggestion of Dr. F. A. F. C. Went, Professor of Botany in Utrecht University, that this voyage was undertaken and it is principally owing to his exertions that the following corporations gave finantial support: de Maatschappij ter bevordering van het Natuurkundig onderzoek der Nederlandsche koloniën (Society for promoting the Physical investigation of the Dutch colonies), de Koninklijke Academie van Wetenschappen te Amsterdam (Royal Society at Amsterdam) which put the P. W. Korthals fund at my disposal, the Committee for the F. W. van Eeden fund, het Koninklijk Nederlandsch Aardrijkskundig Genootschap (Royal Dutch Geographical Society), het Nederlandsch Natuur- en Geneeskundig Congres (the Dutch Physical and Medical Congress) and het Provinciaal Utrechtsch Genootschap van Kunsten en Wetenschappen (Provincial Utrecht Society of Arts and Sciences); also the Botanical laboratory contributed towards the expense of transporting the plant collections in exchange for which it received the collections. To all these corporations I wish to express here my sincere thanks. Het Provinciaal Utrechtsch Genootschap van Kunsten en Wetenschappen again subsidized in order to have this flora printed.

Besides to the corporations mentioned the author is greatly indebted to Prof. Dr. F. A. F. C. Went and to his Excellency the Colonial Minister for his recommendation to the Governor of Curaçao.

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[1] I. Boldingh. The Flora of the Dutch West Indian Islands. First Volume. St. Eustatius, Saba and St. Martin. Brill, Leyden, 1909.

He further has to thank all who during his voyage occupied the posts of Governor of Curaçao and Commander of the Islands Aruba and Bonaire, namely:
the Governors of Curaçao: Jhr. J. O. de Jong van Beek en Donk and Th. J. A. Nuyens LL. D., the Commanders of Aruba: Mr. H. J. Beaujon and of Bonaire: Mr. A. E. J. van den Brandhof and the Hon. District Masters of Curaçao: Mr. A. Thiele, Mr. J. J. Beaujon, of Bonaire: Mr. J. L. J. C. Cadières. Moreover the Rev. Termaat, Apostolic Vicar at Curaçao has been so kind to recommend me to the Rev. R. C. Clergy in the Colony of Curaçao.
I especially appreciate the very helpful assistance and information received before starting on my journey from Prof. J. Boeke, Dr. P. J. van Breemen at Curaçao, Mr. W. Versluys at Curaçao, Pastor P. A. Euwens at Bonaire and Mr. J. H. J. Hamelberg.
In the Colony Surinam, where I stayed a fortnight on my outward voyage I received the kindest help, for which I have to thank His Excellency the Governor of Surinam, D. Fock LL. D. and Dr. C. J. J. van Hall.
While the other officials of the Agricultural Department often assisted me, I wish specially to mention Mr. J. B. Wigmann, director of the Government Garden.
During my stay on land in British Guyana and Venezuela I also received highly valued help, in Br. Guyana from Dr. Stockdale.
I now want to mention the names of all those who made these short stays pleasant and comfortable for me. In the first place I am thinking of Mr. A. R. Nyboer, commander with the Dutch Royal West Indian Mail who had given me introductions to the Hon. Agents of this society in their various stations and who had also introduced me to Mr. A. Statius Muller and Mr. H. J. Cohen Henriquez at Curaçao, who did so much afterwards to render my stay there pleasant. I further mention more particularly Messrs. de Brot, Perret and de Veer in the coast places of Venezuela.
Messrs. G. D. Nieman and N. H. C. van Baaren, commanders with the Dutch Royal W. Ind. Mail also made my voyage along Venezuela pleasant in various ways.
On Oct. 16 I arrived at Curaçao where I was at once hospitably received by Dr. P. J. van Breemen, whom I wish specially to thank here. The Government Agriculturist Mr. W. Versluys gave me immediately all the information I wanted.
I have great pleasure in mentioning the names of all those who assisted my either by offering hospitality or as guides and so

made my investigation easy. These are: Messrs. C. C. B. Gorsira of Malpais, Pastor Hendriks of Westpunt, H. van der Linde Schotborgh of Savonet, Joubert of Wacao and Barber, A. Statius Muller of Siberie, I. van Lier of Hato, H. H. R. Chapman of Valentyn, A. Land of Klein-Davelaar, Ch. Debrot of Choloma, J. H. Penha of Koraal Tabak, Henriquez of van Engelen, de Wind of Waterloo, Ph. de Haseth of Patrick, G. Heldewier Vignon of Knip, M. van Uytrecht of St. Kruis, C. S. Gorsira of Klein St. Martha, G. H. van der Linde Schotborgh of St. Jan.

On Dec. 20 I went to Aruba. Here I particularly mention Messrs. Ecurie and W. F. Peiliker, Pastor Th. van Sadelhoff, R. J. Beaujon jun., Pastor A. Ellis at St. Cruz, Beaujon of Belaski, Pastor G. Potter of Savaneta, de Veer of Seroe Colorado, C. de Veer of St. Nicolaas.

On Jan. 18 I departed to Curaçao, from where I left for Bonaire on Jan. 28. There I was from Jan. 30 to Febr. 14 the guest of Pastor P. A. Euwens at Rincon. I further mention here Mr. P. van Teeckelenburg who put his house at my disposal for the remainder of the time I spent on Bonaire.

On Febr. 20 I went to Curaçao and returned to Holland on Febr. 27.

On Bonaire I received valuable help from Mr. Abelgaardo Eleonora, fusilier of the Infantry Corps of Curaçao, whom Captain van Hombracht had given me as guide.

Data about the vernacular names and the medicinal use of plants were chiefly furnished by Messrs. G. R. van Dussel, Dr. P. de Haseth Möller, F. J. C. Beaujon, J. L. J. C. Cadières, de Wind, A. Hermus, H. J. Cohen Henriquez, Th. van Sadelhoff and P. A. Euwens. Mr. Duyfjes gave me much informations about the geology of the islands.

In the elaboration of the collected plants I was helped by Prof. I. Urban who gave a number of indications for forms not directly known to me, while Dr. F. Niedenzu, Dr. L. Radlkofer and Mr. O. E. Schulz named a number of the Malpighiaceae, Sapindaceae and Solanaceae. Dr. H. Hallier determined by far the greater part of the Convolvulaceae. Prof. W. Trelease determined the Agave species and Dr. A. S. Hitchcock some Gramineae.

To the Director of the State Herbarium at Leyden I am indebted for the loan of the plants of the Suringar collection.

I have particularly to thank Prof. N. L. Britton who sent me the plants collected by himself in Curaçao to work out and with whom I had

an extensive correspondence on forms that were difficult to determine. Thanks to his communications and assistance with the determinations a number of plants have now been named with greater certainty, than would have been possible without his valuable help which was especially necessary with the Cactaceae.

This Flora is divided in Three Parts; whereas the different Parts, Sections and Chapters need no further explanation, a short account of the methods I followed in nomenclature, synonymy and distribution of plants is given here.

The enumeration of Families and Genera is very nearly given after the order of De Dalle Torre et Harms: Genera siphonogamarum ad systema Englerianum Conscripta (1908).

In a few cases I thougt it better to follow:

Urban: Symbolae Antillanae and Urban: Additamenta ad Cognitionem Florae Indiae Occidentalis 1892—97.

The names of the species used are mostly drawn from these two papers and Engler und Prantl.: Die natürlichen Pflanzenfamilien up to 1914, Engler: Regnum Vegetabile up to 1914, or from other monographs.

Whenever I could not find any name in the above mentioned publications I took the name I thought best after the International rules for Botanical Nomenclature chiefly of Vascular Plants. Wien 1905. (Verh. Int. Bot. Congr. 1805 Wien.).

Besides the names thus given I also mention the synonyms that are used in: Grisebach: Flora of the British West Indian Islands, and in a very few cases still another one.

I tried to arrive at the greatest completeness possible in giving the data about the names thus used, and I also mentioned the pages where the plants occur in: Grisebach: Flora of the British West Indian Islands.

To every plant is added the name of the Dutch West Indian Windward Island where it is found in this order: Curaçao, Aruba, Bonaire.

I have mentioned as much as I could find about the distribution of the plants in all parts of the world, and these data are taken from the following publications in this order:

Urban: Symbolae Antillanae, and Additamenta ad Cognitionem

Florae Indiae Occidentalis (1892—97), Engler: Regnum vegetabile and Engler und Prantl: Die Natürlichen Pflanzenfamilien, newer Monographs and Jackson: Index Kewensis.
For the abbreviated names see under Literature.
Whenever I could not find that a plant was known in other parts of the world besides the Antilles, then the names of all the Islands where it is found are enumerated; I have added the name „Margarita" to the plants occurring in the flora of the Islands of Margarita and Coche by Johnston.

The Systematic Part consists of the plants belonging to all the collections mentioned in Chap. 11, p. 116.
The plants collected in the different islands are thus given: collection Boldingh in the order of the day of collecting, and the names of the other collectors are given in chronological order.
Not all the vernacular names people told me are given here, but the names I have given in this Flora are used without any doubt.
Whenever a plant struck my attention although I did not think it necessary to collect it, I made some notes about it; these notes are also to be found in this Flora, printed with small type.

As to the flowering and fruiting time of the plants I did not think it necessary to mention with every plant whether I collected flowers or fruits as the greater part of the plants have been collected with flowers.

I wish to draw attention to the fact that I have tried to render also this Flora of the Dutch West Indian Islands as complete as possible, both by what my own investigations have taught me and what I could find elsewhere.
Only the genus Melocactus has not been studied with the same care, as I was sure I could not add anything to the work done by Suringar on this head by the data I could bring together without giving too much time to it. So I refer to the studies of F. W. R. Suringar on Melocactus and those of J. Valckenier Suringar.

Botanical Laboratory of the University
in Utrecht.

1913.

Additions.

The plant mentioned on pg. 3 as Andropogon brevifolius Sw. has been studied by Mr. V. Nash, who gave it the name of

Schizachyrium curasavicum sp. nov.

Annual. Stems 1—2 dm. tall, branched, glabrous; leaf-sheaths smooth and glabrous, keeled; blades up to 8 cm. long, 3—4 mm. wide, flat, linear, gradually narrowed above to an acute point, glabrous on the keeled lower surface, the upper surface sparingly tuberculate-hirsute with long hairs; spathes 2—3 cm. long; racemes about 2 cm. long, the internodes oblique at the deeply cup-shaped apex, these and the pedicels appressed-hirsute with long hairs below on the back, the internodes long barbate at the base; sessile spikelets 5—6 mm. long; first scale involute, appressed-hirsute with long hairs, long-acuminate, strongly 2-nerved at the apex, these nerves and the intermediate ones very faint below; flowering scale hyaline, delicate, cleft to below the middle, the awn 8—12 mm. long, the tightly spiral deep brown column about as long as the yellowish subula; pedicellate spikelet about 1.5 mm. long, with a scabrous awn about 3 mm. long.

Rocky hill, St. Joris Bay, Curaçao, Britton & Shafer, March 20—27, 1913, No. 3101.

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FIRST PART

SYSTEMATICAL

Pteridophyta.

Polypodiaceae.

68. **Doryopteris** J. Smith.

Doryoptheris concolor Kuhn, v. Deck. Reis. 3^3. Bot. (1879) 19.
Bonaire: Brh (7319); Brh (7321).
In tropical countries of both hem. (C. Christensen).

72. **Cheilanthes** Swartz.

Cheilanthes microphylla Sw. Syn. Fil. (1806) 127; Gris. Fl. 667.
Curaçao: Heh (5647). — Britton & Shafer.
Bonaire: Rk (7049); Rk (7053); Zkr (7387).
Antill., Amer. cont. trop. (Symb.).

100. **Polypodium** Linn.

Polypodium aureum Linn. Spec. (1753) 1087; Gris. Fl. 698.
Curaçao: C (5012); C (5020). — Suringar.
Baham., Antill., Amer. cont. trop. (Symb.).

Monocotyledoneae.

9. Typhaceae.

49. **Typha** Linn.

Typha domingensis Pers. Synops. II (1807) 532.
Typha angustifolia β domingensis Griseb. Fl. Br. W. I. Isl. (1864) 512.
Curaçao: Kr (5586).
Antill., Americ. cont. (Graebner 1900).

11. Potamogetonaceae.

59. **Ruppia** Linn.

Ruppia maritima Linn. Spec. I (1753) 127; Gris. Fl. 506.
Curaçao: Hawt (5348*a*). — Britton & Shafer 2952.
Aruba: Font (6440).
Bonaire: Plh (7288); Plh (7290).
Trop. and temp. zones. (Symb.).

60. **Cymodocea** Ch. Koenig.

Cymodocea manatorum Aschers. in Sitsber. Ges. naturf. Fr. Berlin (1868) 19.
Curaçao: Britton & Shafer 3128.
Bermud., Key West, Antill. (Symb.).

12. Najadaceae.

64. **Najas** L.

Najas guadalupensis Morong. in Mem. Torr. bot. Club III. 2 (1893) p. 60. t. 67;
Najas microdon A. Br. *var. curassavica* A. Br. in Sitzungsber. ges. naturforsch. Freunde Berlin (1868) 17.
Curaçao: Britton & Shafer 3083.
Cuba, Florida, Mexico, Venezuela. (Symb.).

15. Alismaceae.

75. **Echinodorus** Engelm.

Echinodorus cordifolius Gris. Kar. (1857) 109; Gris. Fl. 505;
Echinodorus rostratus Engelm. in Gray Man. of Bot. II. ed. (1856) 438; Buch. in Eng. Pflanzenr. Heft 17 (Alismataceae) 31.
Curaçao: Md (4893); Malpais. — Britton & Shafer 3115.
Baham., Antill., Amer. sept. (Symb.).

17. Hydrocharitaceae.

85. **Halophila** Thou.

Halophila Baillonis Aschers. Journ. Linn. Soc. XIV (1874) 317.
Curaçao: v. Breemen: Spaansche water near Brakkeput.
St. Thomas, Guadeloupe, Martinique. (Symb.).

92. **Thalassia** Banks.

Thalassia testudinum Sol. in König. Ann. of Bot. 11 (1805) 96; Gris Fl. 507. Jeerba die kaania.

Curaçao: v. Breemen. — Britton & Shafer 3094.

Key West, Baham., Antill., Venezuela. (Symb.).

19. Gramineae.

102. **Zea**. Linn.

Zea Mays Linn. Spec. (1753) 971. Maisji grandi.
Cultivated. [Amer. austr. Peru?] (Symb.).

111. **Saccharum** Linn.

Saccharum officinarum Linn. Spec. (1753) 54. Kanja.
Cultivated. [Asia austro-orient.?] (Symb.).

134. **Andropogon** Linn.

Andropogon brevifolius Sw. Prodr. (1788) 26; Gris. Fl. 558.

Curaçao: Britton & Shafer 3101.

Trop. countries of both hemisph. (Symb.).

Andropogon contortus Linn. Sp. (1753) 1045.

Andropogon secundus Willd. ex Nees Agrost. Bras. (1829) 346. Gris. Fl. 558.

Curaçao: Caz (4784); Zt (5382).

St. Eustatius. (Bold. I); Domingo, Haiti, Antigua, Guadeloupe. (Herb. Krug et Urban).

Andropogon Ischaemum Linn. Spec. I. p. 1047. var. **americanus** in Hack. D C. Mon. Ph. VI. 476.

Curaçao: Vd (4742); Bh (4762).

Venezuela, Antigua. (Hack. D C. Mon. Ph. VI).

Andropogon Schoenanthus Linn. Spec. (1753) 1046. Jeerba die lamoen, Lemoengras, Malohie.

Cultivated. [Ind. Orient. Afr. trop. Asia.] (Hack. D C. Mon. Ph. VI).

Andropogon sorghum Brot. Flor. Lusit. I (1804) 88. Maisji raboe, Maisji sjeete simàn, Maisji sjikietoe.

Cultivated.

var. *α* **halepensis** Hack. D C. Mon. Ph. VI (1889) 502. Johnsongras.

Cultivated. [Trop. et temper. zones.] (Hack. D C. Mon. Ph. VI).

140. **Anthephora** Schreb.

Anthephora hermaphoditica O. Ktze. Rev. II (1891) 759;
Anthephora elegans Schreb. Beschr. Gräs. III (1810) 105 t. 44; Gris. Fl. 556.

Curaçao: Vw (4713); W (4926*b*); Hk (5320); Kit (5500); Huk (5569). — Suringar, — Lens 828, — Versluys 1412, — Britton & Shafer 2918.

Aruba: Mankz (6278); Siw (6329). — Suringar.

Bonaire: R (7025*e*); Rk (7095*a*); Rt (7154); Rt (7159); Krak (7445).

Of general occurrence; 30 finding places noted.

Margarita. (Johnston).

Antill., Amer. cont. trop. (Symb.).

143. **Tragus** Hall.

Tragus racemosus Haller Hist. Stirp. Helv. II (1768) 203;
Lappago aliena Spreng. Neue Entd. III (1822) 15; Gris Fl. 557.

Curaçao: Cas (4790); W_2 (5065); Vat (5372). — Suringar, — Britton & Shafer 2960.

Aruba: Ok_2 (6236); Siv (6313*a*). — Suringar.

Bonaire: R (7025*b*); R (7380).

Pretty scarce; of the 18 finding places only 5 were noted on lime.

Margarita. (Johnston).

Antill., trop. and subtrop. countries of both hemisph. (Symb.).

161. **Paspalum** Linn.

Paspalum glabrum Poir. in Lam. Encycl. V (1804) 30.

Curaçao: Bh (4765); Cas (4785); Mok (4821); Mk (4889); Ms (4896); H_2 (5110*b*); Hz (5134); Pek (5282); Pez (5292); Pih (5326); Vat (5367); Kk (5404); Be (5555). — Britton & Shafer 3027.

Aruba: Mand (6292); Camk (6372); Nick (6495*a*).

Bonaire: Rk (7046); Tolkz (7279); Bolko (7370).

Occurring scattered on Curaçao, not on lime soil, especially in courts; 23 finding places noted; rarely seen on Aruba and Bonaire.

Baham., Antill., Guiana. (Symb.).

166. **Panicum** Linn.

Panicum colonum Linn. Syst. X. ed. II (1759) 870; Gris. Fl. 545.

Curaçao: St (5054*g*); Vat (5349); Zt (5380); Ent (5433); Ent (5434); Jt (5423*a*). — Suringar, — Versluys 1407.

Antill., trop. and warmer countries of both hemisph. (Symb.)

Panicum distantiflorum A. Rich. Fl. Cub. Fanerog. II 304.
Curaçao: Britton & Shafer 3088.
Cuba. (Hitchcock 1909).

Panicum geminatum Forsk. Flor. Aeg. Arab. (1775) 18;
Panicum paspaloides Pers. Syn. I (1805) 81; Gris. Fl. 545.
Curaçao: Mt (4868); St (4963); St (5054*m*); Mrt.
Aruba: Bakk (6342*a*). — Suringar.
Florida, Bermud., Baham., Antill., trop. countries of both hemisph. (excl. Australia). (Symb.).

Panicum hirticaule Presl. in Rel. Haenk. I. 308.
Curaçao: Vat (5094); Hk (5322); Zt (5379); Jt (5423).
Mexico. (Hitchc.).

Panicum insulare G. F. W. Mey. Prim. Esseq. (1818) 60.
Tricholaena insularis Gris. Fl. W. I. (1864) 557.
Curaçao: W (4927*g*); Hh (5131*h*); Hh (5131*g*); Krh (5600); W (4929); Huk (5569).
Aruba: Beaujon.
Bonaire: Bolko (7362).
Margarita. (Johnston).
Florida austr., Baham., Amer. cont. from Texas to Patagonia. (Symb.).

Panicum lachnanthum Torr. Pac. Rail. Rep. VII. 3. 21.
Valota saccharata A. Chase in Proc. Biol. Soc. Washington XIX (1906) 188.
Aruba: Serk (6483). — Suringar.
Bonaire: Joh (7209).
Western parts of North. America. (Ind. Kew.).

Panicum maximum Jacq. Ic. pl. rar. I (1781) z. t. 13; cult. Gris. Fl. 549. Guini gras.
Cultivated. [Baham., Antill., Amer. cont. trop., Afr. trop. and subtrop.] (Symb.).

Panicum molle Sw. Prodr. (1788) 2; Gris. Fl. 547. Paragras.
Cultivated. [Baham., Antill., Amer. cont. trop.] (Symb.).

Panicum reptans L. Syst. X. ed. II (1759) 870;
Panicum prostratum Lam. Ill. III. 1 (1791) 171; Gris. Fl. 546.
Curaçao: St (5054*s*); Jt (5423*b*). — Aschenberg, — Suringar, — Versluys 1414, — Britton & Shafer 2987, 3002, 3145.
Margarita. (Johnston).
Antill., trop. countries of both hemisph. (Symb.).

Panicum sanguinale Linn. Spec. (1753) 57;
Digitaria marginata Lk. Enum. I (1821) 102 et *Digitaria setigera* Roth. ap. R. et Sch. Syst. II (1817) 474?; Gris. Fl. 544. Piea die galienja sjimarón.

Curaçao: St (5054 *k*); Zt (5383*a*); Ent (5433 *b*). — Versluys 1413.

Aruba: Font t (6475*a*). — Suringar.

Margarita. (Johnston).

Antill., trop. countries of both hemisph. (Symb.).

Panicum stenodes Gris. Fl. W. I. (1864) 547.

Curaçao: Rih (4654); Vd (4737); Ms (4897); H_2 (5110).

Bonaire: Rk (7070); Soebh (7261*a*); Soebh (7272); Bonk (7485). — Suringar.

Jamaica, Cuba, Brasil. (Gris. Fl. W. I.).

Panicum velutinosum Nees. Agrost. bras. 121.
Maisji totalieka.

Curaçao: Mok (4819); W (4927*f*); St (5054*e*); Aw (5163); Bah (5169); Bat (5232*b*); Be (5398); Jh (5428); Jh (5428*b*); Krh (5597). — Aschenberg, — Suringar, — Versluys 1401, 1404, 1405, — Britton & Shafer 2986, 3004.

Aruba: How (6362).

Bonaire: R (7095*b*); R (7384). — Suringar.

Brasil., Mexico. (Steud. Plant. Glum.).

171. **Setaria** Beauv.

Setaria setosa Beauv. Agrost. (1812) 51; Gris. Fl. 555.

Curaçao: C (4995).

Antill., Amer. cont. trop. (Symb.).

174. **Cenchrus** Linn.

Cenchrus echinatus Linn. Spec. I. ed. II (1753) 1050; Gris. Fl. 556. Peega saaja mohee.

Curaçao: Vat (5091); Vat (5374). — Suringar, — Lens 834, — Versluys 1408, — Britton & Shafer 3156.

Aruba: Mankz (6278*a*); Siw (6324). — Koolwijk.

Bonaire: Bolko (7374).

Margarita. (Johnston).

Antill, all tropical countries. (Symb.).

Cenchrus carolinianus Walt. in Flora Caroliniana (1788). Peega saaja boobo.

Curaçao: W (4927*c*); St (5054*f*); Vat (5375); Zt (5380); Zt (5382*b*); Jh (5428*a*); Ent (5433*a*). — Aschenberg, — Versluys 1409, — Britton & Shafer 2916.

Aruba: Siw (6325); Savk (6523). — Koolwijk.

Bonaire: Rt (7155). — Suringar.

Bermud., Baham., Antill., Amer. cont. trop. (Symb.).

195. **Bouteloua** Lag.

Bouteloua aristidoides Gris. Fl. Br. W. I. 537.

Aruba: Ajw (6344); Andh (6395); Mirh (6455). — Suringar.

Arizona. (Herb. Utrecht); Mexico. (Hitchc.).

Bouteloua Humboldtiana Gris. Pl. Wright II (1862) 532; *Heterostega juncifolia* H. B. K. Nov. Gen. I (1815) p. 175 t. 54.

Curaçao: Bh (4769); W_2 (5067); Sik_3 (5262*c*); Pih (5327).

Aruba: Mankz (6297); Altavista (6340). — Suringar.

On Curaçao 6 finding places of which one on lime soil; on Aruba scattered, 7 finding places; on Bonaire not found at all.

Portorico, Cuba, Hispaniola. (Symb.).

208. **Aristida** Linn.

Aristida Swartziana Steud. Syn. Pl. Gram. (1855) 137; *Aristida purpurascens* Poir. Encycl. Supp. 1.452; Gris. Fl. 534.

Curaçao: Bh (4763); Bh (4772); Cas (4782); Cas (4783); Mah (4852*a*); W (4927*a*); H (5069); Wa_3 (5103*a*); Hk (5131*m*); Si k_2 (5264); Hk (5319); Pi k (5327*a*); Zt (5381); Zt (5383*b*); Huk (5569*a*). — Suringar, — Britton & Shafer 2958.

Aruba: Ok_2 (6235); Bakh (6333).

Bonaire: R (7009); Macb (7120); Lash (7227); PRw (7355); Bol ko (7366); Krak (7443*a*); Bact (7473*c*). — Suringar.

Over a hundred finding places noted.

Jamaica. (Steud. Pl. Gram.); St. Eustatius, Saba, St. Martin. (Bold. I).

230. **Sporobolus** R. Br.

Sporobolus argutus, Kth. Enum. I (1833). 215. Brakgras, Jeerba fieni.

Curaçao: Rud (4608); Vw (4717); Blw (4754); B (4779); Mok (4825); Pit (4835); Mt (4862); W (4927); Sk (5044); Hk (5131*b*); Bat (5210); Bat (5230); Vat (5365*a*); Ent (5433*d*). — Aschenberg, — Suringar, — Versluys 1415, — Britton & Shafer 3051.

Aruba: Mankz (6280); Bushir (6342); Bek (6424). – Suringar, — Koolwijk.

Bonaire: R (7025*a*); R (7025*c*); R (7091); R (7183*a*); Kra k (7443*c*); Lac k (7477). — Suringar.

Noted in 82 finding places.

Brasilia. (Kunth. Enum.) (Symb.).

282. **Cynodon** Pers.

Cynodon dactylon Pers. Syn. I (1805) 85; Gris. Fl. 540. Brakgras saaloe.

Curaçao: Suringar, — Versluys 1417.

Bermud., Baham., Antill., trop. and warmer countries of both hemisph. (Symb.).

288. **Chloris** Sw.

Chloris leptantha Hitchc. in Symb. Antill. VII (1912) 166.

Curaçao: H_2 (5115); Beh (5531); Dh (5636); Be (5556); Huk (5569); Krk (5591*b*). — Britton & Shafer 2906.

Aruba: Siw (6322); Ok_2 (6233); How (6360); Bek (6421*a*); Beh (6428 *h*); Mirh (6445*a*); Savw (6520); Savh (6535*a*).

Bonaire: *R* (7031); Joh (7208); Krak (7444).

Chloris paraguaiensis Steud. Gram. (1855) 204;

Chloris barbata Sw. Flor. I (1797) 200; Gris. Fl. 549.

Curaçao: Sik (5188); Bat (5232*c*); Zt (5383). — Suringar, — Lens 829, — Versluys 1410, — Britton & Shafer 2989.

Aruba: Siw (6305).

Bonaire: Rt (7152); Bact (7473).

Noted in 17 finding places; Scarce.

Baham., Antill., trop. countries of both hemisph. (Symb.).

Chloris Suringari Hitchc. in Symb. Antill. VII (1912) 167.

Curaçao: Mk (4888); Mk (4895); Sik (5187); Pek (5281).

304. **Eleusine** Gärtn.

Eleusine indica Gärtn. Fruct. I (1788) 8; Gris. Fl. 540. Kamoesji, Piea die galienja.

Curaçao: Cas (4807); St (5041*i*). — Aschenberg, — Suringar, — Went 1099, — Versluys 1406.

Bonaire: Suringar.

Baham., Antill., trop. and warmer countries of both hemisph. (Symb.).

305. **Dactyloctenium** Willd.

Dactyloctenium aegyptium Willd. Enum. Hort. Berol. (1809) 1029; Gris. Fl. 540;

Eleusine aegyptiaca Desf. Flor. atl. I (1798) 85.

Bosopaata, Haabriman, Maria bo kee beendeemi, Piea waarawaara.

Curaçao: W (4926*c*); St (5054*a*); Bat (5232*d*); Huk (5569*d*);

Krk (5591). — Aschenberg, — Suringar, — Went 1102, — Lens 811, — Versluys 1403.

Aruba: Ok_2 (6231); Siw (6331); Siw (7342*d*). — Suringar.

Bonaire: R (7025*d*); R (7059); Rt (7151); Krak (7443); Krak (7444*a*). — Suringar.

Of general occurrence in the three islands.

Margarita. (Johnston).

Baham., Antill., trop. and warmer countries of both hemisph. (Symb.).

307. **Leptochloa** Beauv.

Leptochloa filiformis Beauv. Agrost. (1812) 71;

Leplochloa mucronata Kth. Rév. Gram. I (1829) 91; Gris. Fl. 537.

Curaçao: St (5054*v*); St (5054*h*); Wa_3 (5101*a*); A (5145); Bat (5232*a*); Ent (5433*c*). — Aschenberg, — Suringar, — Lens 830, — Versluys 1411, 1421.

Bonaire: Rh (7035).

Occurring scattered outside the lime on Curaçao and Bonaire.

Margarita. (Johnston).

Bermud., Antill., Amer. sept., Nova Granata, Asia and Afr. trop. (Symb.).

310. **Pappophorum** Schreb.

Pappophorum alopecuroideum Vahl. Symb. bot. III (1794) 10. t. 51; Gris Fl. 537.

Bonaire: Fh (7253); (7424); Skr (7438).

Trinidad, La Tinta, Bras. to Uraguay. (Gris. Fl.).

341. **Eragrostis** Host.

Eragrostis ciliaris Lk. Hort. Berol. I (1827) 192; Gris. Fl. 532.

Curaçao: Rif (4024*a*); Mt (4864); W (4927*e*); Wa_3 (5103*b*); Pe (5305); Beh (5529); Huk (5569*e*); Dh (5637). — Suringar, — Went 1097, — Britton & Shafer 2908, 3139.

Aruba: (6205); Siv (6334); Bakh (6336); Ajw (6343); Bek (6433*a*); Nick (6495*c*); Savw (6519*d*); Mansz (6555). — Suringar.

Bonaire: Rh (7036); R (7115*a*); R (7147); Soebh (7260); Soebh (7261); Brw (7314*a*); Krak (7443*b*); Zoutkg (7501*a*). — Suringar.

Generally spread; 40 finding places noted.

Margarita. (Johnston).

Baham., Antill., Amer. trop., Afr. trop., Ind. orient. (Symb.).

Eragrostis diversiflora Vasey in Contrib. U. S. Nat. Herb. I (1893) 285.

Aruba: Crr; Jabh (6275); Bakk (6342).

Bonaire: Zout kg (7501).

Mexico. (Ind. Kew.).

Eragostis pilosa Beauv. Agrost. (1812) 71; Gris. Fl. 532.

Curaçao: Krk (5590). — Suringar.

Aruba: Suringar.

Bonaire: Bolko (7375); Bact (7473*a*).

Antill., warmer countries of both hemisph. (Symb.).

Eragrostis Urbaniana Hitchc. in Symb. Antill. VII (1912) 167.

Curaçao: Nask (4692); Pek (5285). — Suringar, — Britton & Shafer 2939, 3058.

Aruba: Mankz (6277); Nick (6495); Font k (6565).

Bonaire: Rk (7064); Grk (7170); Soebkr (7258); Tolkz (7277); Krak (7446). — Suringar.

Baham.: (South Caicos). (Symb.).

20. Cyperaceae.

Cyperus elegans Linn. Spec. (1762) 68;

Cyperus viscosus Swartz. Prod. (1788) 20; Gris. Fl. 563.

Curaçao: Suringar.

Bonaire: Suringar.

Florida, Antill., Amer. centr., Argentinia. (Symb.).

Cyperus esculentus Linn. Spec. ed. II. 67; Gris. Fl. 565. Jeerba die kooko, Kooko die amiena.

Curaçao: Blw (4747); St (5054*w*).

Aruba: Bakk (6342); Ajw (6343*a*).

Bonaire: R (7131); R (7140); Rt (7148); Brw (7314); Tk (7333). — Suringar.

Southern parts of Europa, in Africa, Asia, Oceania and America in the warmer parts. (Symb.).

Cyperus articulatus Linn. Spec. ed. I (1753) 44; Gris. Fl. 564. Oenkoe.

Curaçao: Mh (4869). — Aschenberg.

In warmer and tropical countries of both hemisph. (Symb.).

Cyperus compressus Linn. Spec. Pl. ed. II 68; Gris. Fl. 562.

Curaçao: Kit (5487).

In all warmer countries of both hemisph. (Symb.)

Cyperus oligostachys H. B. K. Nov. Gen. et Sp. I. 164.
Curaçao: Kit (5540); Kr k (5592). — Britton & Shafer 3095.
Aruba: Sav k (6523).
Bonaire: R (7115); Mont kr (7413); Bact (7473*f*).
N. Andalusia. (H. B. K. Nov. Gen. et Sp.).

Cyperus oxylepis Nees in Linnaea IX (1834) 285.
Curaçao: M_2. — Britton & Shafer 2924.
Bonaire: Karkz (7440).
Jamaica, Equador, Guiana. (Symb.).

Cyperus rotundus Linn. Spec (1762) 67; Gris Fl. 564.
Curaçao: Aschenberg, — Lens 822, — Versluys 1402, — Britton & Shafer 3097.
Aruba: Fontt (6475); Fontt (6475*b*).
Baham., Antill., warmer countries of both hemisph. (Symb.).

Cyperus uncinatus Poir. in Lam. Encycl. VII (1806) 247; *Cyperus cuspidatus* H. B. K. Nov. Gen. et Sp. I (1815) 204.
Curaçao: Krk (5590*a*).
Aruba: Bek (6424*c*).
Bonaire: Tolkz (7277*c*).
In all tropical and warmer countries. (Symb.).

459*. **Mariscus** Gärtn.

cf. 459. **Cyperus** Linn. sect. 6.

Mariscus brizaeus C. B. Clarke in Symbolae Antillanae II (1900) 52. Kamoe, Korta mán, Jeerba die koetsjóe.
Curaçao: C (5004); Pez (5289); Be (5558). — Suringar.
Aruba: Bakk (6342*c*). — Suringar.
Bonaire: Grkz (7176); Skz (7435).
Baham., Antill., Florida. (Symb.).

Mariscus bruneus C. B. Clarke in Symb. Antill. II (1900) 51; *Cyperus brunneus* Sw. Fl. Ind. Occid. I (1797) 116 partim; Gris. Fl. 565.
Curaçao: Britton & Shafer 2938.
Trop. America. (Symb.).

Mariscus confertus Clarke in Symb. Antill. II (1900) 50; *Cyperus confertus* Sw. Prodr. (1788) 20; Gris. Fl. 563.
Curaçao: Hk (5320); Kit (5505); W (4926). — Aschenberg, — Went 1091, — Lens 812, — Versluys 1416, — Britton & Shafer 2907, 3028.

Aruba: Jabh (6272); Siv (6304); Suph (6392); Bek (6424); Serk (6483); Mansz (6557).

Antill., Columbia, Venezuela, Ins. Galapagos. (Symb.).

Mariscus fuligineus (Chapm.) C. B. Clarke in Symb. Antill. V (1907) 290;

Cyperus fuligineus Chapm. in Fl. S. U. St. 551. Jeerba maisji sjikietoe.

Curaçao: Rih (4656); Kk (5402); Jak (5640). — Suringar, — Britton & Shafer 2947.

Bonaire: Soebh (7259); Soebh (7261*b*); Skz (7439); Lack (7477*a*).— Suringar.

22 finding places in all; noted as spread, not on Aruba.

Amer. boreal. (Ind. Kew.).

Mariscus gracilis Vahl. Enum. II (1806) 372.

Curaçao: C (4996); H_2 (5109); Sih (5191); Kit (5504). — Suringar, — Britton & Shafer 2971.

Bonaire: Macb (7119); Tolkz (7277*b*); Fh (7255); Brh (7322); Bonk (7490). — Suringar.

Cuba, Jamaica, Hispaniola. (Symb.).

Mariscus ligularis Urb. Symb. Antill. II (1900) 165;

Mariscus rufus H. B. K. Nov. Gen. et Spec. I (1815) p. 216. t. 67;

Cyperus ligularis Linn. Amoen. Acad. V (1759) 391; Gris. Fl. 566.

Curaçao: Britton & Shafer 3017.

Margarita. (Johnston).

In trop. countries of Africa and America. (Symb.).

Mariscus planifolius Urb. in Symb. Antill. II (1900) 165;

Mariscus purpurascens C. B. Clarke in Symb. Ant. II (1900) 51;

Cyperus bruneus Gris. Flor. (1864) 565 p.p.

Curaçao: Suringar.

Aruba: Suringar.

Bonaire: Zoutz (7498). — Suringar.

Portorico, Antigua, Guadeloupe, Dominica, Martinique, St. Vincent, Grenada, Trinidad. (Symb.).

459**. **Torulinium** Desv.

cf. 459. **Cyperus** sect. 5.

Torulinium ferax Urb. in Symb. Antill. II (1900) 165;

Cyperus odoratus Linn. Spec. I (1753) 46; Gris. Fl. 565.

Curaçao: Britton & Shafer 3114.

Aruba: (Symb.).

In all warmer countries of both hemisph. (Symb.).

Torulinium filiforme C. B. Clarke in Symbolae Antillanae II (1900) 57;

Cyperus filiformis Swartz Prodr. (1788) 20; Gris. Fl. 565.

Curaçao: Wh (5573).

Aruba: Bek (6423).

Baham., Antill. (Symb.).

468. Scirpus Linn.

Scirpus micranthus Vahl. Enum. II (1806) 254;

Hemicarpha subsquarrosa Nees in Mart. Fl. Bras. II pars I (1843) p. 61. t. 4 fig. 1; Gris. Fl. 372.

Aruba: Mankz (6279*a*); Ajw (6341); Ajw (6343); Savw (6519).

Bonaire: R (7139); Grkz (7174*a*); Tolkz (7277*a*); Brw (7314*b*).

Not seen on Curaçao; on Aruba and Bonaire together 16 finding places noted.

In all parts of America, Angola. (Symb.).

469. Heleocharis R. Br.

Heleocharis capitata R.Br. Prod. (1810) 225;

Scirpus capitatus Linn. Spec. (1762) 70; Gris. Fl. 570 partim.

Curaçao: Mt (4867); Asc (5296); Krt (5584). — Aschenberg, — Britton & Shafer 3014, 3078.

Margarita. (Johnston).

Tropical and subtropical countries. (Symb.).

469*. Bulbostylis Kunth.

cf. 469. **Heleocharis** R. Br.

Bulbostylis floccosa var. β **pumillio** C. B. Clarke in Symbolae Antillanae V (1907) 290.

Curaçao: Sik_3 (5242); Hk (5315). — Suringar, — Britton & Shafer (2946).

Bonaire: Grk (7171); Plak (7260); Bon k (7488).

471. Fimbristylis Vahl.

Fimbristylis annua R. et Sch. Syst. II (1817) 95;

Fimbristylis diphylla Vahl Enum. II (1806) 289;

Fimbristylis brizoides Nees in Linnaea IX (1834) 290; Gris. Fl. 572.

Bonaire: Zoutkg (7503).

In all warmer and tropical countries. (Symb.).

Fimbristylis monostachya Hassk. Pl. Jav. Rar. (1848) 61;
Cyperus monostachyus Linn. Mant. (1771) 180; H. B. et K. Nov. Gen. et Spec. I. 203;
Abildgaardia monostachya Vahl Enum. II (1806) 296; Gris. Fl. 569.
Curaçao: Mah (4852); Mh (4883); Krh (5596).
Bonaire: Soebh (7280); Bolko (7367).
In all warmer and tropical countries. (Symb.).

Fimbristylis ferruginea Vahl Enum. II (1806) 291; *Scirpus ferrugineus* Linn. Spec. Ed. II 74; Gris. Fl. 572.
Curaçao: Asc (5293); Krt (5585). — Aschenberg, — Britton & Shafer 3018.
In warmer and tropical countries of America. (Symb.).

21. Palmae.

528. **Phoenix** Linn.

Phoenix dactylifera Linn. Spec. (1753) 1188. Daader.
Cultivated. [Afr. sept.] (Symb.).

549. **Copernicia** Mart.

Copernicia tectorum Mart. Hist. Nat. Palm. III. 243. Palmiet.
Cultivated. [N. Granata.] (Kunth).

613. **Oreodoxa** Wild.

Oreodoxa regia H. B. K. Nov. Gen. et Spec. I. 305.
Cultivated. [Antill.] (Ind. Kew.).

663. **Cocos** Linn.

Cocos nucifera Linn. Spec. (1753) 1188. Kokos.
Cultivated. [Amer. austr. sept. occid.?] (Symb.).

22. Cyclanthaceae.

678. **Carludovica** Ruiz. et Pav.

Carludovica palmata Ruiz. et Pav. Syst. 291.
Cultivated. [Amer. austr.] (Ind. Kew.).

24. Lemnaceae.

795. **Lemna** Linn.

Lemna paucicostata Hegelm. ex Engelm. in A. Gray Man. Bot. V. ed. (Jan. 1868) 681;

Lemna minor Gris. Fl. W. I. (1864) 512. (p.p.) (Symb.).

Curaçao: Noord. — Britton & Shafer 2993.

Antill., Amer. cont., Afr., Asia austro-orient., Japon., Australia. (Symb.).

796. **Wolffia** Hork. et Schleid.

Wolffia punctata Gris. Fl. Br. W. I. (1864) 512.

Curaçao: Britton & Shafer 2994.

Jamaica. (Gris. Fl.); Americ. sept. (Thompson. Amer. Lemn.).

32. Bromeliaceae.

840. **Bromelia** Linn.

Bromelia lasiantha Willd. ap. R. et Sch. Syst. VII (1830) 1233.

Curaçao: C (4991); Sik_3 (5249); Sik_3 (5250); Wah (5256); Sik_3 (5257); Sik_3 (5258). — Britton & Shafer 3093.

Aruba: Cam.

On Curaçao especially occuring in the Western part with 11 finding places; in the remaining part 2. Not observed on Bonaire.

Venezuela. (Mez. Bromeliac.).

851. **Ananas** Adans.

Ananas sativus Schult. f. in R. et Sch. Syst. VII (1830) 1283. Cultivated. [Brasilia]. (Symb.).

890. **Tillandsia** Linn.

Tillandsia fasciculata Sw. Prodr. (1788) 56; Gris. Fl. 595.

Curaçao: locality unknown.

Florida austral., Baham., Antill., Mexico, Amer. centr. and austro-sept. (Symb.).

Tillandsia recurvata Linn. Spec. (1762) 410; Gris. Fl. 598. Barba die Kadoesji, Marie die paaloe.

Curaçao: Blw (4750); Mir (6450). — Went 1319, — Britton & Shafer 3024.

Bonaire: Rk (7060); Macb (7125).

On Aruba also 4 finding places noted; on Curaçao and Bonaire especially in the Western parts.

Margarita. (Johnston).
Baham., Antill., warmer countries of America. (Symb.).

Tillandsia usneoides Linn. Spec. (1762) 411; Gris Fl. 598.
Curaçao: seen on the Christoffel Mountain.
Antill., warmer countries of Amer. (Symb.).

Tillandsia utriculata Linn. Spec. (1753) 286; Gris. Fl. 596.
Teekoe die paaloe.
Curaçao: Wo (4939); C (5010); C (5053); Beh (5525); Mirh (6448).
Bonaire: Lash (7223).

On Aruba also 2 finding places noted, occuring especially in the wooded parts, 11 finding places in all.

Margarita. (Johnston).
Florida austral., Baham., Antill., Mexico, Venezuela, Guiana. (Symb.).

33. Commelinaceae.

896. Commelina Linn.

Commelina virginica Linn. Spec. (1762) 62;
Commelina elegans H. B. K. Nov. Gen. I (1815) 259; Gris. Fl. 525. Maisji grandi sjimarón.
Curaçao: Blt (4903); Wk (4958); Kit (5499); Be (5551). — Suringar, — Lens 813, — Versluys 1420.
Aruba: Ok_2 (6241); Beh (6428). — Suringar.
Bonaire: R (7093); R (7385).

Occurring on Curaçao especially in the Western part: 13 finding places, hardly ever on lime; on Aruba 5 finding places, on Bonaire 2.

Antill.. warmer countries of Amer. cont. (Symb.).

912. Callisia Linn.

Callisia repens Linn. Spec. (1752) 62; Gris. Fl. 524.
Curaçao; Suringar.
Aruba: Beh (6428); Savk (6552).
Antill., Mexico, Amer. centr., Venezuela, Peru, Bras. (Symb.).

38. Liliaceae.

1026. **Aloe** Linn.

Aloe vera Linn. Spec. (1753) 320;
Aloe vulgaris Lam. Encycl. I (1784) 86; Gris. Fl. 582. Sinte biebo.
Curaçao: Went 1318.
Aruba: Suringar.
Bonaire: Bact (7474).

On Curaçao especially in the middle part, 14 finding places; on Aruba 4 finding places noted, on Bonaire 2.

Cultivated and escaped. [Indig. in mediterr. countries and Canar. Isl.] (Symb.).

1110. **Sanseviera** Thunb.

Sanseviera guineensis Willd. Spec. Plant. II (1799) 159. Jeerba koeleebra.
Cultivated. [Afr. trop.] (Symb.).

40. Amaryllidaceae.

1194. **Hymenocallis** Salisb.

Hymenocallis caribaea Herb. App. Bot. Reg. (1821) 14;
Pancratium caribaeum Linn. Spec. (1753) 291; Gris. Fl. 583.
Cultivated. [Florida, Baham., Antill.] (Symb.).

1196. **Eucharis** Planch.

Eucharis grandiflora Planch. et Linden in Fl. des Serres. Sér. I. (IX) (1853—1854) 255.
Cultivated. [New Granada.] (Ind. Kew.).

1208. **Hippeastrum** Herb.

Hippeastrum puniceum Urb. in Symb. Antill. IV (1903) 151.
Cultivated. [Antill., Amer. trop.] (Symb.).

1219. **Agave** Linn.

Agave Boldinghiana Trelease, Agave in the West Indies in: Mem. Nat. Acad. Sc. XI (1913) p. 21. t. 11, 12, 13. Koeki spanjool, Koeki indian.
Cultivated.

Agave Cantula Roxb. Fl. Ind. II 167.
Cultivated.

Agave fourcroydes Lemaire Ill. Hort. vol. 11, miscell. (1864) 65.
Cultivated.

Agave petiolata Trelease, Agave in the West Indies in: Mem. Nat. Acad. Sc. XI (1913) p. 20, t. 8.
Cultivated.

Agave sisalana Perrine, House Doc. No. 564, pp. 8, 9 e.a. (1838). Pieta.
Cultivated.

Agave Trankeera Trelease, Agave in the West Indies in: Mem. Nat. Acad. Sc. XI (1913) p. 26, t. 25, 26, 27, 28. Pieta die trankeer.
Curaçao: Boldingh. — Ecker, — Britton & Shafer 2924.
Aruba: Boldingh.
Bonaire: Boldingh.

Agave vicina Trelease, Agave in the West Indies in: Mem. Nat. Acad. Sc. XI (1913) p. 19, t. 4, 10. Koeki spanjool, Koekoe indian.
Aruba: Boldingh.

Agave vivipara Linn. Spec. (1753) 323. Koeki indian.
Curaçao: Boldingh. — Ecker, — Britton & Shafer 3060.

1222. **Furcraea** Vent.

Furcraea gigantea Vent. in Bull. Soc. Philom. (1793). Pieta vlas.
Cultivated.

45. Musaceae.

1318. **Musa** Linn.

Musa paradisiaca Linn. Spec. (1753) 1043. Banana, Bakooba.
Cultivated. [India orient.] (Symb.).

47. Cannaceae.

1363. **Canna** Linn.

Canna indica Linn. Spec. (1753) 1. Canna.
Cultivated. [Cosmop. trop.] (Ind. Kew.).

48. Marantaceae.

1370. **Maranta** Linn.

Maranta arundinacea Linn. Spec. (1753) 2. Arraroot.
Cultivated. [Baham., Antill., Amer. cont. trop.] (Symb.).

50. Orchidaceae.

1618. **Schomburgkia** Lindl.

Schomburgkia tibicinis Batem. Orchid. Mex. et Guat. t. 30. Banana sjimaròn.
Curaçao: C (5005). — Aschenberg.
Bonaire: Lash (7225).
Honduras. (Walp. Ann. Bot. VI).

1619. **Brassavola** R. Br.

Brassavola nodosa Lindl. Gen. and Sp. Orch. (1831) 114, in Bot. Reg. XVIII t. 1465; Gris. Fl. 621.
Curaçao: locality unknown. — Aschenberg.
Antill., Mexic. austr., Amer. centr., Columbia, Venez., Peru. (Symb.).

Dicotyledoneae.

53. Piperaceae.

1866. **Peperomia** Ruiz. et Pav.

Peperomia petiolaris C. DC. in Seem. Journ. of Bot. IV (1866) 138.
Cultivated. [Cuba, Paraguay.] (Symb.).

63. Ulmaceae.

1898. **Celtis** Linn.

Celtis Iguanaea Sarg. Silva VII (1895) 64;
Celtis aculeata Sw. Prodr. (1788) 53; Gris. Fl. 149. Bessji igoeaana, Jeerba igoeaana, Raambessji.
Curaçao: Sh (4970); H_2 (5113). — Suringar, — Britton & Shafer 3104.
Aruba: Bek (6432); Bek (7055).

Bonaire: Bonk (7492). — Suringar.

On Curaçao in the wooded part 11 finding places outside the lime district; on Aruba 2 finding places noted, on Bonaire 7.

Margarita. (Johnston).
Antill., Amer. cont. trop. (Symb.).

64. Moraceae.

1919. **Chlorophora** Gaudich.

Chlorophora tinctoria Gaudich. in Freyc. Voy. Bot. (1829) 508;
Maclura tinctoria D. Don ex Steud. Nomencl. II ed. II (1814) 87; Gris. Fl. 153;
Maclura xanthoxylon Endl. Gen. Suppl. IV. II (1847) 34; Gris. Fl. 153. Paaloe die moora, Paaloe doesji.

Curaçao: Vw (4702). — Suringar, — Went 1330.
Bonaire: Suringar.

On Curaçao alone 13 finding places noted, nearly always in courts and not on lime soil.

Antill., Amer. cont. trop. (Symb.).

1961. **Ficus** Linn.

Ficus Brittonii Boldingh. (n. sp.) ramulis tenuibus, in sicco subrugoso-sulcatis; stipulis glabris caducis; foliis membranaceis vel subpergamaceis, glabris, oblongis ovato-oblongis usque ellipticis, basi cuneato-subacutis, apice apiculatis usque mucronatis, basi trinerviis, venis primariis haud crebris; petiolis longis; receptaculis binis vel solitariis axillaribus, pisiformibus, globosis, basi bracteis 2 parvis connatis suffultis; ostiolo elevato; pedunculis quam receptacula longioribus glabris.

Arbor vel planta scandens.

Ramuli 3—4 mm. lati, in sicco cinereo-brunei. Stipulae 1 cm. longae, lanceolatae acutae in sicco brunescentes. Petioli glabri 0,5—2,5 cm. longi, 1—2 mm. lati, in sicco brunei; folia 3—9 cm. longa, 2—4 cm. lata, in sicco brunea, subtus haud pallidiora, nervis basalibus vulgo 1/3 folii haud superantibus, venis utrinque 6—8 patentibus tenuibus ad marginem arcuato-connexis, utrinque prominulis, interspersis parallelis tenuioribus, nervis tertiaribus conspicuis, reticulatione subtus conpicua. Receptucula 6 mm. in diametro. Pedunculi 4—6 mm. longi, 1 mm. lati, in sicco brunei, bracteis 1 mm. longis, patentibus in sicco brunei. Ostiolum 2 mm. latum, squamis rotundatis vel acutis in sicco bruneis clausum. Florum ♀ sepala rotundata, 0,5 mm. longa.

Mata paaloe. Plate I.

Curaçao: Hofje Klein Piscadera (4832); Mount Christoffel (5023); Slope of the Hieronymusberg (5116); Calcareous hills near Siberie

(5169); Hofje Hato (5342); Calcareous hills near St.-Jan (5642). — Britton & Shafer 3106.

Bonaire: Calcareous plateau of Montagna (7423). — Suringar.

Ficus Carica Linn. Sp. Pl. 1059.
Cultivated. [Eur., Oriens.] (Ind. Kew.).

Ficus elastica Roxb. Hort. beng. (1814) 65.
Cultivated. [Ex Assam vel Malesia.] (Symb.).

65. Urticaceæ

1984. **Pilea** Lindl.

Pilea herniarioides Lindl. Coll. bot. (1821) sub tab. 4.
Curaçao: H_2 (5114); Wh (5573); Heh (5648). — Suringar, — Britton & Shafer 2949.
Aruba: Camk (6371); Camk (6379); Bek (6433); Nick (6500).— Suringar.
Bonaire: Rk (7041).
Key Ins., Baham., Antill., Costarica. (Symb.).

Pilea microphylla Liebm. in Vidensk. Selsk. Skr. Kopenh. V. Ser. Vol. II (1851) 286; Gris. Fl. 155.
Cultivated. [Florida austr., Bermud., Baham., Antill., Amer. cont. trop.] (Symb.).

Pilea nummularifolia Wedd. in Ann. Sc. nat. III Ser. XVIII (1852) 225.
Cultivated. [Antill.] (Symb.).

67. Loranthaceae.

2089. **Phoradendron** Nutt.

Phoradendron trinervium Gris Flor. W. I. (1860) 314.
Curaçao: Hk (5123).
Bonaire: Montkz (7394).
Antill., Costarica. (Symb.).

72. Olacaceae.

2129. **Schoepfia** Schreb.

Schoepfia Schreberi J. F. Gmel. Syst. (1791) 376.
Curaçao: Moh (4853); Bah (5181); Pew (5277); M_3. — Britton & Shafer 3086.

Aruba: Mirh (6446).

Bonaire: Rk (7069); Rk (7072); Montkr (7421).

Antill., Mexico? San Salvador? Venezuela. (Symb.).

77. Polygonaceae.

2205. **Antigonon** Endl.

Antigonon leptopus Hook. et Arn. Bot. Beech. (1841) 308 t. 69. Begissima.

Cultivated. [Jamaica.] (Gris. Fl.).

2209. **Coccoloba** Linn.

Coccoloba diversifolia Jacq. Enum. Syst. (1760) 19;

Coccoloba punctata Gris. (non L.) Flor. W. I. (1859) 163;

Coccoloba diversifolia Gris. (non Jacq.) pr. p. Flor. W. I. (1859) 163. (Symb.). Bessji die kalakoena, Dreifi sjimarón, Kamaalia, Kamaari, Manggel die sabaana, Paaloe die lamán, Red mangel, Witte manggel.

Curaçao: Mok (4827); Mh (4881); Mh (4882); H (5070); Sik_3 (5240); R (5330); K (5463). — Aschenberg, — Suringar, — Britton & Shafer (3082).

Aruba: Jam (6306); Cank (6384). — Suringar.

Bonaire: Rk (7051); Macb (7122); Soebh (7274); Bonk (7489). — Suringar.

Generally spread in parts with well developed woods; on Curaçao 28 finding places noted, especially in the Western part and on the Western border of the Eastern half; on Aruba 7 finding places noted and on Bonaire 18.

Baham., Antill. (Symb.).

Coccoloba uvifera Jacq. Enum. Syst. 19; Gris. Fl. 161. Dreifi die lamán, Zeedreifi.

Curaçao: Suringar, — Britton & Shafer 2951.

Aruba: Mand (6290).

Bermud., Florida, Baham., Antill., Mexico, Amer. centr., Venezuela, Guiana. (Symb.).

2210. **Triplaris** Loefl.

Triplaris coriacea Krst. in Fl. Columbiae II (1862—69) 131. Manggel die sabaana.

Curaçao: C (4943); C (5003); C (5024); Hz (5139); Wah (5255); Sit (5298); Ch (5415); Ch (5416); Be (5506); Beh (5509).

On Curaçao 13 finding places noted in the Western part and near Choloma; not observed on Aruba and Bonaire.

Barcelona, Caracas. (Karsten Fl. Columb.).

78. Chenopodiaceae.

2223. Chenopodium Linn.

Chenopodium ambrosioides Linn. Spec. (1753) 219; Gris. Fl. 60. Jeerba froemingga, Passoota, Sagradoo.

Curaçao: Suringar.

Aruba: Suringar.

Margarita. (Johnston).

Trop. and warmer countries of both hemisph. (Symb.).

Chenopodium murale Linn. Spec. (1753) 219; Gris. Fl. 60.

Curaçao: Aschenberg, — Suringar, — Britton & Shafer 3059.

Aruba: locality unknown. — Suringar.

Baham., Antill., Indig. in the Old World. (Symb.).

2229. Atriplex Linn.

Atriplex cristata H. B. in Willd. Spec. IV. II (1806) 959.

Curaçao: Suringar, — Britton & Shafer 2926.

Aruba: locality unknown.

Bermud., Florida austral., Baham., Antill., Venezuela, Nova Granata, Peruvia. (Symb.).

2257. Salicornia Linn.

Salicornia ambigua Michx. Flor. Bor. Amer. I. 2.

Curaçao: Suringar, — Britton & Shafer 2929.

Aruba: Serkz (6507). — Suringar.

Bonaire: Lack (7478). — Suringar.

Margarita. (Johnston).

Amer. sept. (Eng. u. Prntl.).

79. Amarantaceae.

2299. Amarantus Linn.

Amarantus crassipes Schlecht. in Linnaea VI (1831) 757;

Scleropus amarantoides Schrad. in Ind. Sem. hort. Götting. (1835); Gris. Fl. 68.

Curaçao: Bat (5234); (5737). — Britton & Shafer.

Margarita. (Johnston).

Florida, Key West, Antill., Amer. cont. from Mexico to Peru. (Symb.).

Amaranthus gracilis Desf. Tabl. I ed. (1804) 43;

Euxolus caudatus Moq. in DC. Prodr. XIII, II (1849) 247; Gris. Fl. 68;

Amarantus caudatus Linn. Spec. (1753) 990.

Curaçao: A (5154). — Suringar, — Britton & Shafer.

Bonaire: Suringar.

Baham., Antill., trop. countries of both hemisph. (Symb.).

Amarantus polygonoides Linn. Pl. Jam. Pugil. II (1759) 27;

Amblogyne polygonoides Raf. Fl. Tellur. III (1836) 42; Gris. Fl. 68. Kalaloe die poorko.

Curaçao: Hk (5082). — Suringar, — Britton & Shafer 3123.

Aruba: Savk (6542). — Suringar.

Bonaire: Suringar.

Florida, Key, Baham., Antill. (Symb.).

Amarantus tristis Linn. Spec. (1753) 989; Gris. Fl. 69. Kalaloe.

Curaçao: Cas (4793); St (4964); TC (5434*b*); M 6. — Suringar, — Britton & Shafer 2983, 3136.

Aruba: Siv (6310). — Suringar.

Bonaire: R (7164). — Suringar.

Margarita. (Johnston).

Antill., Chile. (Symb.).

2328. **Achyranthes** Linn.

Achyranthes obtusifolia Lam. Enc. I (1783) 545;

Achyranthes aspera var. obtusifolia Gris. Flor. W. I. (1860) 220.

Curaçao: Hw (5562).

Margarita. (Johnston).

Antill., Afr., Asia trop., Ins. Paul. (Symb.).

2335. **Alternanthera** Forsk.

Alternanthera brasiliana O. Ktze. Rev. II (1891) 537 p.p. (Symb.);

Mogiphanes straminea Mart. Nov. Gen. II (1826) 35, t. 135; Gris. Fl. 64.

Aruba: Bek (6434); Mirh (6453). — Suringar.

Bonaire: R (7186). — Suringar.

Florida, Antill., Amer. cont. trop. (Symb.).

Alternanthera ficoidea R. Br. Prodr. I (1810) 417, vel affin.; *Alternanthera polygonoides* Gris. Flor. W. I. (1859) 67.

Curaçao: Nasw (4684); Pit (4834); Asc (5295). — Suringar, — Britton & Shafer 3067.

Aruba: Siw (6308). — Suringar.

Margarita. (Johnston).

Antill., Amer. austr., Ins. Philip. (Symb.).

2338. **Gomphrena** Linn.

Gomphrena globosa Linn. Spec. (1753) 224.

Cultivated. [Indig. Asia orient. and austr. from Ins. Sundaic. to Nova Guinea.] (Symb.).

2339*. **Philoxerus** R. Br.

cf. 2339. **Iresine** Linn. Sect. 1.

Philoxerus vermicularis R. Br. Prodr. I (1810) 410; Gris. Fl. 65.

Curaçao: Suringar, — Britton & Shafer 2923.

Margarita. (Johnston).

Florida austr., Key Ins., Baham., Antill., Amer. cont. trop., Afr. occid. (Symb.).

2339** **Lithophila** Swartz.

cf. 2339. **Iresine** Linn.

Lithophila muscoides Sw. Prodr. (1788) 14; Gris. Fl. 66; *Alternanthera muscoides* Bent. et Hook. f. Gen. vol. 3 (1880) 39. Jeerba koessientsji, Polet die pieedra.

Curaçao: Vd (4736); Pk (5483); Hwk (5567). — Suringar, — Britton & Shafer 2925.

Aruba: Ok_2 (6219); Mankz (6276); Mankz (6282); Bakk (6338); Bakk (6339); Bek (6421*b*); Fontz (6471); Ser (6513); Savh (6525); Fontk (6566). — Suringar.

Bonaire: Grk (7173); R (7180); Grkz (7174); Savkz (7346); Lack (7477); Zoutz (7499). — Suringar.

Margarita. (Johnston).

Very widely spread; on Curaçao 15 finding places noted, on Aruba 19 and on Bonaire 11.

From the Bahamas to the Dutch W. I. Islands Curaçao, Aruba and Bonaire. (Symb.).

80. Nyctaginaceae.

2347. **Mirabilis** Linn.

Mirabilis Jalapa Linn. Spec. (1753) 177.
Cultivated. [Amer. trop.] (Symb.).

2349. **Boerhaavea** Linn.

Boerhaavea coccinea Mill. Gard. Dict. VIII ed. (1768) n. 4; *Boerhaavea hirsuta* Willd. Phytogr. (1794) 1; Gris. Fl. 69; *Boerhaavea repens* Linn. Spec. (1753) 3. Bataata die poorko, Mata poorko, Waada waada, Waada waada maatsjoe.
Curaçao: Suringar.
Antill., Amer. sept. and centr. (Symb.).

Boerhaavea erecta Linn. Spec. (1753) 3; Gris. Fl. 69. Bataata die poorko, Mata poorko, Waada waada, Waada waada maatsjoe.
Curaçao: Mo (4815); St (4961); Jt (5422). — Aschenberg, — Suringar.
Aruba: Siw (6316). — Suringar.
Margarita. (Johnston).
Bermud., Baham., Antill., Amer. cont. (Symb.).

Boerhaavea paniculata L. Cl. Rich. in Act. Hist. Nat. Par. I (1792) 105; Gris. Fl. 69. Bataata die poorko, Mata poorko, Waada waada, Waada waada maatsjoe.
Curaçao: V (4728); Mo (4816); St (4960). — Lens 815.
Aruba: Mirh (6457*a*); Fontz (6473).
Margarita. (Johnston).
Baham., Antill., Amer. centr. and austral. (Symb.).

Boerhaavea scandens Linn. Spec. (1753) 3; Gris. Fl. 69. Jeerba die piepa, Jeerba kanggreeuw, Kwareel.
Curaçao: Bh (4759). — Aschenberg, — Suringar, — Went 1336, — Britton & Shafer 2912.
Aruba: (6206); Nick (6491). — Suringar.
Bonaire: R (7089). — Suringar.
Baham., Antill., Amer. cont. from Arizona to Peru. (Symb.).

2350. **Bougainvillea** Comm.

Bougainvillea spectabilis Willd. Spec. Pl. II (1799) 348. Trinaria.
Cultivated. [Trop. Americ.] (Johnston).

2354. **Pisonia** Linn.

Pisonia bonairensis Boldingh. (n. sp.) foliis ellipticis vel oblongo-ellipticis, basi breviter in petiolum 1—2 cm. longum attenuatis, apice in acumine attenuatis, 4—8 cm. longis, 2—4 cm. latis, coriaceis, superne nitidis. Inflorescentiis pedunculo tenui, plurifloris, corymbiformis vel subumbellatis. Floribus puberulis, pedicellis 0,1—0,3 cm. longis. Perianthiis ♂ 0,4 cm. longis, infundibuliformis. Staminibus 6—8, perianthio plus quam duplo longioribus. Perianthiis ♀ 0,3 cm. longis, cylindraceis. Anthocarpiis ignotis.

Arbor; rami grisei brunescentes; folia vivo viridia superne opaca, nervo mediano conspicuo prominente, nervis lateralibus 5—7 utrinque vix prominentibus. Inflorexentia pedunculo communi 3—6 cm. longo, ramulis ultimis umbellulas plerumque trifloras gerentibus. Flores basi 2—3 bracteolis, minutissimis circumdati. Perianthia ♂ apice aperta acuto 5 lobata. Stamina ad 0,5—0,7 cM. longa, excerta, libera.

Perianthia ♀ supra distincte contricta, limbo 5 lobulato, parcissime puberula cylindracea. Germen 0,2 cM. longum, strigmate digitatim fimbriato.

Laabra, Mahoebaari, Masjiboeri, Moesti sámbo. Plate II.

Curaçao: Calcareous hills near Hermanus 5077; Hills between Hieronymusberg and Savonet 5124, 5128; Antonyberg 5146; Hills near Barber 5180, 5182*; near Davelaar 5401*; Hills near Blein 5515; Hofje of Knip 5539; Hills near Brakkeput ariba 5548.

Aruba: Slope of Jamanota 6299; Slope of Hooiberg 6365; Calcareous hills near Belashi 6430*; Hills near Savaneta 6532.

Bonaire: Slope of Joewa 7200, 7222; Rincon 7022; Calcareous plateau near Fontein 7248; Hills near Salina Playa Grandi 7293.

Occuring only in the wooded parts; on Curaçao 20 finding places noted on Aruba 6, on Bonaire 12.

* Description after no. 5401, 5182 and 6430.

Pisonia fragrans Dumont Cours. Bot. Cult. II ed. Vol. VII (1814) 114; *Pisonia obtusata* Sw. Flor. III (1806) 1960 (non Jacq. 1798); Gris. Fl. 71 p.p. (Symb.);

Pisonia inermis Gris. Flor. W. I. (1859) 7 (p.p. non Jacq.) (Symb.). (Johnston).

Curaçao: Mah (4857); C (5002); K (5464); Hwk (5564); Wh (5577).

Aruba: Savh (6533).

Bonaire: Macb (7123); Bolko (7360); Bolko (7372); Montkz (7412); Montkr (7416).

Margarita. (Johnston).

Florida austr., Antill., Amer. centr., Columbia, Guiana. (Symb.).

81. Batidaceae.

2362. **Batis** Linn.

Batis maritima Linn. Syst. X. ed. II (1759) 1380; Gris. Fl. 61. Banana die rif.

Curaçao: Rif, Lagoen Labadera. — Suringar, — Britton & Shafer 2927.

Aruba: Bez (6439); Serkz (6509). — Suringar.

Bonaire: Krakz (7442). — Suringar.

Margarita. (Johnston).

Florida, Baham., Antill., Amer. cont. trop. orient., Californ., Ins Sandw. (Symb.).

83. Phytolaccaceae.

2370. **Rivina** Linn.

Rivina humilis Linn. Spec. (1753) 121;

Rivina laevis Linn. Mant. I (1767) 41; Gris. Fl. 59. Stakamahatsji.

Curaçao: C (5016). — Suringar.

Aruba: Savk (6523*a*). — Suringar.

Bonaire: Rk (7045); Rk (7047); Joh (7210); Joh (7214). — Suringar.

Margarita. (Johnston).

Flora austr., Baham., Antill., Amer. cont. trop. and sub trop. (Symb.).

84. Aizoaceae.

2387. **Mollugo** Linn.

Mollugo verticillata Linn. Spec. (1753) 89; Gris. Fl. 56.

Curaçao: Vat (5373). — Suringar, — Britton & Shafer 3036.

Aruba: L (6251); Mirh (6459). — Suringar.

Bonaire: Suringar.

Margarita. (Johnston).

Antill., Amer. cont. (Symb.).

2394. **Sesuvium** Linn.

Sesuvium portulacastrum Linn. Syst. X ed. II (1759) 1058; Gris. Fl. 57.

Curaçao: Ms (4899); Hz (5137). — Suringar, — Britton & Shafer 2928.

Aruba: Mankz (6281); Fontt (6472). — Suringar.

Bonaire: Okz (7240); Mat (7300); Lagz (7464); Lagz (7465); Lagk (7481). — Suringar.

Observed only on lime; 18 finding places noted in all.

Margarita. (Johnston).

Bermud., Baham., Antill., trop. and sub trop. countries of both hemisph. (Symb.).

2395. **Trianthema** Linn.

Trianthema portulacastrum Linn. Spec. (1753) 223;

Trianthema monogynum Linn. Mant. I (1767) 69; Gris. Fl. 58.

Curaçao: Suringar, — Britton & Shafer 3063.

Aruba: Siv (6314); Siw (6320). — Suringar.

Bonaire: Mat (7298). — Suringar.

Margarita. (Johnston).

Key, Antill., Amer. cont. trop., Afr. and Asia trop. (Symb.).

85. Portulacaceae.

2406. **Talinum** Adans.

Talinum triangulare Willd. Spec. II (1800) 862; Gris. Fl. 56.

Curaçao: A (5147); A (5148).

Margarita. (Johnston).

Antill., Amer. austr. (Symb.).

2421. **Portulaca** Linn.

Portulaca halimoides Linn. Spec. (1762) 639; Gris. Fl. 57. Jeerba kaneeuw, Jeerba konijntsji, Jeerba poesji, Piea palooma.

Curaçao: Mh (4873); Pek (5287); Hwk (5567*a*). — Suringar, — Went 1344, — Lens 837, — Britton & Shafer 3045.

Aruba: Ok_2 (6258); Mankz (6294); Ajw (6343*f*); Bek (6424*a*). — Suringar.

Bonaire: Savk (7345). — Suringar.

Scarce, 8 finding places noted in all.

Margarita. (Johnston).

Antill., Mexico. (Symb.).

Portulaca oleracea Linn. Spec. (1753) 445; Gris. Fl. 57. Beembee.

Curaçao: Suringar.

Aruba: Suringar.

Margarita. (Johnston).

Bermud., Baham., Antill., trop. and warmer countries of both hemisph. (Symb.).

Portulaca phaeosperma Urb. in Symb. Antill. IV (1905) 233.
Curaçao: V (4732); Sk (5040); Zt (5382). — Suringar.
Portorico, Hispaniola. (Symb.).

Portulaca venezuelensis Urb. in Symb. Antill. V (1907) 344. Beembee sjimarón, Jeerba kaneeuw maatsjoe, Piea palooma.
Curaçao: W (4928); Bah (5176); Beh (5528); Be (5550); Wh (5575). — Suringar, — Britton & Shafer 3038.
Aruba: Jabh (6273); Nick (6497). — Suringar.
Bonaire: Joh (7220); Bolko (7356). — Suringar.

On Curaçao 13 finding places noted outside lime, on Aruba 4, on Bonaire 3.

Margarita. (Johnston).
Venezuela. (Symb.).

88. Nymphaeaceae.

2513. **Nymphaea** Linn.

Nymphaea ampla DC. Syst. II (1821) 54; Gris. Fl. 11.
Curaçao: M 23.
Baham., Antill., Amer. cent., Amer. merid. (Symb.).

94. Menispermaceae.

2574. **Cissampelos** Linn.

Cissampelos Pareira Linn. Spec. (1753) 1031; Gris. Fl. 10. Jeerba pataaka, Rais die pataaka.
Curaçao: Wo (5448).
Bonaire: Montkz (7411).
Margarita. (Johnston).
All tropical countries. (Symb.).

98. Anonaceae.

2729. **Anona** Linn.

Anona muricata Linn. Spec. (1753) 536; Gris. Fl. 4. Sorsaaka.
Cultivated. [Antill.] (Symb.).

Anona palustris Linn. Spec. II ed. I (1762) 757; Gris. Fl. 5. Kajoeda.
Cultivated? [Antill., Amer. austr., Afr. occid.] (Symb.).

Anona reticulata Linn. Spec. (1753) 537; Gris. Fl. 5.
Cultivated. [Antill.] (Symb.).

Anona squamosa Linn. Spec. (1753) 537; Gris. Fl. 5. Skopappel.
Cultivated [Antill.] (Symb.).

102. Lauraceae.

2783. **Persea** Gärtn.

Persea americana Mill. Gard. Dict. VIII ed. (1768).
Cultivated. [Mexico.] (Symb.).

104. Papaveraceae.

2852. **Argemone** Linn.

Argemone mexicana Linn. Spec. (1753) 508; Gris. Fl. 13. Polber sjimarón, Tjimitjimi.

Curaçao: Aschenberg, — Suringar.

Bonaire: R (7088). — Suringar.

Margarita. (Johnston).

Bermud., Baham., Antill., Amer. cont. trop. and from there in trop. countries of the Old World. (Symb.).

105. Cruciferae.

3003 **Greggia** A. Gray.

Greggia Urbaniana Muschler in Urb. Symb. Antill. VII (1912) 226.
Aruba: Suringar.

107. Capparidaceae.

3082. **Cleome** Linn.

Cleome stenophylla Klotzsch ex Symb. Antill. IV (1905) 251. in Rich. Schomb. Reise III (1848) 1164.

Curaçao: Cas (4800); Mo (4816); Aw (5164); Bat (5224); Hk (5319*a*); Kit (5489). — Suringar, — Britton & Shafer 3046.

Aruba: Suringar.

Bonaire: Rt (7158).

Portorico, St. Barthélémy, Guiana. (Symb.).

3087. **Gynandropsis** DC.

Gynandropsis pentaphylla DC. Prodr. I (1824) 238;
Cleome pentaphylla Linn. Spec. (1763) 938; Gris. Fl. 15. Jeerba kaaja.

Curaçao: St (4959). — Suringar, — Went 1352.

Bonaire: Zoutkg (7505).

Margarita. (Johnston).

Baham., Antill., Amer. cont. calid., indig. in Afr. and Asia trop. (Symb.).

3095. **Crataeva** Linn.

Crataeva gynandra Linn. Spec. ed. II. I (1762) 636; Gris Fl. 17.

Soeroen die moondi.

Bonaire: R (7114).

Aruba: seen near Canashito.

Margarita. (Johnston).

Common in tropical America. (Johnston).

3101. **Capparis** Linn.

Capparis Breynia Jacq. Sel. Amer. (1763) 161 t. 103; *Capparis amygdalina* Lam. Enc. I (1783) 608; Gris. Fl. 17. Jeerba mosterd, Olieba maatsjoe, Paaloe preetoe, Raaba, Horse radish.

Curaçao: Pit (4837); Mo (4898); C (4994); Beh (5519). — Aschenberg, — Suringar, — Britton & Shafer 3133.

Aruba: Jam (6302); Fonth (6463).

Bonaire: Rk (7040); Lash (7217). — Suringar.

Occurring in the wooded part; on Curaçao 10 finding places almost exclusively outside the lime region; on Aruba 6, on Bonaire 12 finding places.

Margarita. (Johnston).

Antill., Amer. centr., Nova Granata, Venezuela. (Symb.).

Capparis cynophallophora var. **latifolia** Griseb. Flor. W. I. (1859) 18. p.p. (Symb.). Hoerihoeri, Jeerba mosterd, Paaloe die loora, Raaba, Stokki.

Curaçao: Pit (4838); Sik_2 (5259); Krk (5593). — Aschenberg, — Suringar.

Aruba: Savk (6544).

Bonaire: R (7021); Joh (7218); Joh (7219); R (7284); Tolkz (7285); Montkz (7404). — Suringar.

Margarita. (Johnston).

Occurring in the wooded part; on Curaçao 13 finding places noted; on Aruba 3 and on Bonaire 16.

Antill., Venezuela. (Symb.).

Capparis jamaicensis Jacq. Enum. (1760) 23; Gris. Fl. 18. Olieba.

Curaçao: Vd (4738); Wh (4947); H (5071); Hk (5133); Sik_2 (5197); Vat (5351); Caz (5414); Kit (5474). — Aschenberg, — Suringar.

Aruba: Ajh (6346); Camk (6382); Bek (6425); Nick (6493). — Suringar.

Bonaire: R (7023). — Suringar.

Margarita. (Johnston).

Generally occurring in the wooded part; on Curaçao 21 finding places noted, on Aruba 16, on Bonaire 23.

Florida austr., Baham., Antill. (Symb.).

Capparis linearis Jacq. Enum. pl. Carib., (1760) 24. Keedebessji.

Curaçao: Wh (4946); H (5072); H_2 (5117). — Suringar.

Aruba: Bek (6426).

On Curaçao especially in the Christoffel complex; 8 finding places noted; on Aruba 7 in the wooded part; not observed on Bonaire.

Margarita. (Johnston).

Venezuela and Northern South America. (Johnston).

Capparis tenuisiliqua Jacq. Enum. pl. Carib. (1760) 24.

Curaçao: C (4999); C (5001); C (5014).

Bonaire: Joh (7207); Joh (7221).

Margarita. (Johnston).

Venezuela, Columbia. (Johnston).

3104. **Morisonia** Linn.

Morisonia americana Linn. Spec. (1753) 503; Gris. Fl. 19.

Aruba: Fonth (6441); Savk (6522). — Suringar.

Margarita. (Johnston).

Venezuela, West Indies. (Johnston).

109. Moringaceae.

3128. **Moringa** Juss.

Moringa oleifera Lam. Encyc. I (1783) 398;

Moringa pterygosperma Gärtn. Fruct. II (1791) 314 t. 147 f. 2; Gris. Fl. 16. Ben boom, Orengga, Salaster.

Cultivated. [Indig. in India orient.] (Symb.).

126. Rosaceae.

3398. **Chrysobalanus** Linn.

Chrysobalanus icaco Linn. Spec. (1753) 513; Gris. Fl. 229. Ekaakes.

Cultivated. [Florida austr., Baham., Antill., Amer. austr., Afr. austr.] (Symb.).

128. Leguminosae.

3441. **Pithecolobium** Mart.

Pithecolobium ligustrinum Klotzsch ex Benth. Trans. Linn. Soc. vol. 30 (1875) 571.

Cultivated. [American tropics.] (Johnston).

Pithecolobium platylobum Urb. in Symb. Antill. V (1908) 360. Daabaroeieda, Jaaga.

Aruba: Ajw (6355); Fontk (6480); Nick (6502). — Suringar.

Only observed on Aruba; 10 finding places noted, especially in the mountainous part.

Venezuela. Nova Granata. (Symb.).

Pithecolobium ungius-cati Benth. in Hook. Lond. Journ. Bot. III (1844) 200; Gris. Fl. 226. Unguis die poesji, Unguis gaati.

Curaçao: Bh (4764); B (4775); Vat (5369); Beh (5524); Jaz (5644*a*). — Suringar, — Britton & Shafer 3131.

Aruba: L (6268); Jam (6300); How (6358); Fonth (6443); Mirh (6462); Nick (6486). — Suringar.

Bonaire: R (7111); Ri (7105); R (7146). — Suringar.

Spread; on Curaçao 11 finding places noted; on Aruba 8, on Bonaire 24.

Margarita. (Johnston).

Florida austr., Key ins., Antill., Venezuela, Nova Granata. (Symb.).

3443. **Albizzia** Durazz.

Albizzia lebbek Benth. in Hook. Lond. Journ. Bot. III (1844) 87. Barba die jonkeman.

Cultivated. [Baham., Antill., Asia austr. and orient., Afr. trop.] (Symb.).

3446. **Acacia** Willd.

Acacia tortuosa Willd. Spec. Plant. IV (1805) 1083; Gris. Fl. 222. Oebaada, Waabi.

Curaçao: Rih (4652); S (5030); Hk (5131*a*); Rih (5324); Pk (5467); (5735). — Suringar, — Went 1120, — Lens 845, — Britton & Shafer.

Aruba: Hoh (6363); Savh (6534). — Suringar.

Bonaire: Rk (7068); R (7090); R (7142); Plh (7292); Math (7308); Montkz (7403). — Suringar.

On all the islands observed in nearly all places visited.

Margarita. (Johnston).

Antill., Mexico, Venezuela, Equador, Peru, Buenos Ayres, Galapagos. (Gris. Fl.).

Acacia villosa Willd. Spec. Plant. IV (1805) 1067; Gris. Fl. 221. Matagalienja, Nigieta die Malpais, Watapaana sjimarón, Wild divi divi.

Curaçao: Ri (4647); Nasw (4689); Cas (4787); Mah (4860); Sc (4978); Hk (5131*e*); Hw (5560); M 7. — Aschenberg, — Suringar, — Went 1118, 1320, — Lens 820, — Britton & Shafer 2943.

Observed only on Curaçao in the Western part and in the Western half of the Eastern part; 45 finding places noted.

Cuba, Jamaica, Mexico to Panama. (Gris. Flor.).

3447. **Leucaena** Benth.

Leucaena glauca Benth. in Hook. Journ. Bot. IV (1842) 416; Gris. Fl. 220. Toembaraboe.

Cultivated. [In Amer. trop. indigen.?] (Symb.).

3449. **Mimosa** Linn.

Mimosa distachya Cav. Ic. III. 48. t. 295. Unguis die gaatoe.

Curaçao: Kd (5338). — Suringar, — Went 1340.

Aruba: (5751). — Suringar.

Mexico. (Ind. Kew.).

3450. **Desmanthus** Willd.

Desmanthus depressus Humb. et Bonpl. ex Willd. Spec. Plant. IV (1805) 1046; Gris. Fl. 218. Montánja.

Curaçao: Pit (4841); Blt (4905); S (5032); Hk (5131*a*). — Aschenberg, — Suringar, — Britton & Shafer 2991.

Aruba: Suringar.

Florida, Antill., Texas to Peru, Galapagos. (Gris. Fl.).

Desmanthus virgatus Willd. Spec. IV. 2 (1806) 1047; Gris. Fl. 218.

Curaçao: Cas (4804); Mo (4816*e*); Hk (5080); Vat (5092); Wa_3 (5105); Hk (5131*c*); Bat (5206); Bat (5217); Hatot (5339); Vat (5354*d*). — Suringar.

Aruba: Siv (6317); Siv (6318); Mansz (6558).

Bonaire: Rt (7161); Fh (7245); Bact (7973*d*). — Suringar.

Margarita. (Johnston).

Bermud., Baham., Antill., (Amer. cont. trop. and subtrop., India orient.) (Symb.).

3451. **Neptunia** Lour.

Neptunia plena Benth. in Hook. Journ. Bot. IV (1842) 355; Gris. Fl. 218.

Curaçao: Si (5193).

Antill., Amer. austr., Asia trop. (introd.) (Symb.).

3454. **Prosopis** Linn.

Prosopis juliflora D C. Prod. vol. 2 (1825) 447; Gris. Fl. 217;

Prosopis cumanensis H. B. K. Nov. Gen. et Spec. vol. 6 (1823) 310. Indjoe, Koeieda, Koeiegi.

Curaçao: S (5026). — Aschenberg, — Suringar, — Britton & Shafer 3053.

Aruba: Fontk (6478). — Suringar.

Bonaire: Plh (7297).

On Curaçao 17 finding places noted, on Aruba 13 and on Bonaire 24; generally spread in these last two islands.

Margarita. (Johnston).

Venezuela, Mexico to Guajaquil, Jamaica. (Johnston).

3459. **Adenanthera** Linn.

Adenanthera pavonina Linn. Spec. (1753) 384.

Cultivated. [Asia trop.] (Symb.).

3508. **Tamarindus** Linn.

Tamarindus indica Linn. Spec. (1753) 34; Gris. Fl. 213. Tamarijn.

Cultivated. [Indig. veris. in Africa trop.] (Symb.).

3536. **Cassia** Linn.

Cassia Absus Linn. Spec. Pl. (1753) 376; Gris. Fl. 210.

Curaçao: Bat (5207); K (5465).
Bonaire: Bolko (7363).
Cosmop. trop. (Ind. Kew.).

Cassia bicapsularis Linn. Spec. (1753) 376; Gris Fl. 207. Broeska doesji, Tamarijn sjimarón, Wild trommelstok.

Curaçao: Sik_3 (5265); Sik_3 (5266). — Aschenberg, — Britton & Shafer 3089.
Bonaire: Gh (7311). — Suringar.
Bermud., Baham., Antill., Amer. cont. trop., Inquil. in India orient. and Madeira. (Symb.).

Cassia nictitans Linn. Spec. I (1753) 380; Gris. Fl. 211 (p.p.).

Curaçao: Cas (4799); Cas (4803); St (5054*m*); Wa_2 (5105); Bat (5233); Bat (5228); M 12. — Suringar, — Went 1338, — Britton & Shafer 2919, 2988.
Aruba: Siw (6326); Siw (6328*a*); Savk (6539). — Suringar.
Bonaire: R (7029); Rt (7157); Rt (7162); Fk (7334).
Margarita. (Johnston).
Baham., Antill., Amer. sept. subtrop., Mexico. (Symb.).

Cassia obovata Collad; Gris. Fl. 209. Senneblaar.
Curaçao: Sh (4969); W_2 (5061). — Suringar.
Aruba: Ok_2 (6215). — Suringar.
From trop. Africa. (Gris. Fl.).

Cassia Sophera Linn. Spec. Pl. 542. Broeska.
Curaçao: Vp (4745); Pe (5306); Kit (5488). — Suringar.
Bonaire: Slk (7312); Fk (7332*a*).
Aruba: locality unknown. — Beaujon.
In tropical countries of both hemisph. (Benth. Rev. Cassia).

3543. **Krameria** Loefl.

Krameria ixina Linn. Spec. (1762) 117; Gris. Fl. 31. Peega saaja sjimarón, Rathania.

Curaçao: Blt (4916); Sk (5039). — Suringar, — Britton & Shafer 3035.
Bonaire: Soebh (7281); Bolko (7357). — Suringar.

On Curaçao 11 finding places noted, not seen on Aruba, on Bonaire 5 finding places.

Hispaniola, St. Thomas, Antigua, Columbia. (Symb.).
St. Eustatius. (Boldingh I).

3551. **Parkinsonia** Linn.

Parkinsonia aculeata Linn. Spec. (1753) 375; Gris. Fl. 204. Boontsji streena.

Cultivated. [Key Ins., Antill., Amer. cont. trop.] (Symb.).

3552. **Haematoxylon** Linn.

Haematoxylon Brasiletto Karst. Flor. Columb. II (1858—69) 27, t. 114.

Curaçao: Rih (4653); V (4727); Blw (4748); Hk (5131*d*); Mrh (5625). — Suringar, — Went 1321, — Britton & Shafer 3054.

Aruba: Nick (6496).

Bonaire: Grk (7172); Joh (7202); Lagz (7468). — Suringar.

On Curaçao 66 finding places noted, on Aruba only observed in one place, on Bonaire in 19.

Haiti, Columbia, Guatemala, Mexico. (Symb.); St. Eustatius. (Boldingh).

3554. **Cercidium** Tulasne.

Cercidium viride Taub. in Eng. & Prantl. Natürl. Pflanzenfam. III. 3 (1892) 172;

Retinophloeum viride Karst. Fl. Columb. II (1862) 25. t. 113.

Cultivated. [Northern South America.] (Symb.).

3556. **Poinciana** Linn.

Poinciana regia Boj. ex Hook. Bot. Mag. (1829) tab. 2284. Flamboyant.

Cultivated. [Madagascar.] (Symb.).

3559. **Caesalpinia** Linn.

Caesalpinia ciliata Urb. in Symbolae Antillanae II (1900) 275;

Guillandina Bonduc Gris. Kar. (1857) n. 466 p. 60. Djoekoe.

Curaçao: Sh (4966); W_2 (5062). — Aschenberg, — Suringar, — Britton & Shafer 3020.

Bonaire: Suringar.

Barthélémy, Antigua, Guadeloupe, Désirade, Marie Galante, Martinique. (Symb.); St. Eustatius, Saba, St. Martin. (Boldingh I).

Caesalpinia coriaria Willd. Spec. Plant II (1799) 532;

Lebidibia coriaria Schlecht. in Linnaea V (1830) 193; Gris. Fl. 231. Divi divi, Watapaana.

Curaçao: Rih (4651); Sh (4967). — Suringar, — Went 1329, — Britton & Shafer 3025.

Aruba: Fonth (6444). — Suringar.

Bonaire: Lagz (7461). — Suringar.

In each of the islands observed in all places visited.

Margarita. (Johnston).

Baham., Antill., Mexico, Venezuela, Nova Granata. (Symb.).

Caesalpinia pulcherrina Sw. Obs. (1791) 166; Gris. Fl. 205. Toetoeroetóe.

Cultivated. [Patria ignot.] (Symb.).

3561. **Peltophorum** Walp.

Peltophorum Suringari Urb. Symb. Ant. V (1908) 363;

Peltophorum acutifolium Johnst. in Proc. Bost. Soc. Nat. Hist. Flora of Margarita Island 221;

Caesalpinia acutifolia Johnston, Proc. Amer. Acad. Arts and Sci., vol. 40 (1905) 686. Cura hout.

Curaçao: Sit (5299); Wo (5451); Krt (5616). — Suringar, — Britton & Shafer 3084.

Aruba: (5751); Jam (6301); Bek (6435); Fontk (6479). — Suringar.

On Curaçao only observed in a few places, on Aruba 9 finding places were noted, in the Eastern part; not observed on Bonaire.

Margarita. (Johnston).

3602. **Sophora** Linn.

Sophora tomentosa Linn. Spec. (1753) 373; Gris. Fl. 203.

Aruba: Along the seashore. — Suringar.

Bonaire: Skr (7436).

In warmer countries of both hemisph. (Symb.).

3669. **Crotalaria** Linn.

Crotalaria incana Linn. Spec. (1753) 716; Gris. Fl. 180.

Curaçao: Bat (5227); Kit (5490). — Aschenberg, — Suringar, — Britton & Shafer.

Aruba: Ok_2 (6223). — Suringar.

Bonaire: R (7128). — Suringar.

Margarita. (Johnston).

Warmer countries of both hemisp. (Symb.).

Crotolaria retusa Linn. Spec. (1753) 715; Gris. Fl. 179.
Curaçao: Suringar.
Warmer countries of both hemisph. (Symb.).

3688. **Medicago** Linn.

Medicago sativa Linn. Spec. (1753) 778. Alfalfa.
Cultivated. [Europa.] (Ind. Kew.).

3702. **Indigofera** Linn.

Indigofera suffruticosa Mill. Gard. Dict. VIII ed. (1768) n. 2; *Indogofera anil* Linn. Mant. II (1771) 272; Gris. Fl. 181. Jeerba die seis.
Curaçao: V (4722); Bah (5183); Hwk (5565*a*). — Suringar.
Aruba: Ok_2 (6255); Mansz (6560). — Suringar.
Bonaire: R (7026); Montkr (7409). — Suringar.
Spread; 25 finding places noted in all.
Margarita. (Johnston).
In tropical and warmer countries. (Johnston).

Indigofera tinctoria Linn.
Curaçao: Kd (5334).
Trop. countries of both hemisph. (Eng. und Prantl).

3709. **Dalea** Linn.

Dalea phymatodes Willd. Spec. 3 (1797) 1338; Jeerba die sonja.
Curaçao: Bah (5178); Krh C (5605); M. 1. — Britton & Shafer 3143.
Venezuela. (DC. Prodr. 2).

3718. **Tephrosia** Pers.

Tephrosia cinerea Pers. Syn. II (1807) 328; Gris. Fl. 182. Mankeman seeboe.
Curaçao: V (4724); Cas (4791); W (4927*d*); A (5158); Vat (5354*c*). — Aschenberg, — Suringar, — Britton & Shafer 3001.
Aruba: Siw (6309); Siv (6328); Bez (6438). — Suringar.
Bonaire: R (7127); Fz (7244); (7326). — Suringar.
Spread over Curaçao, 27 finding places noted, on Aruba 3, on Bonaire 4.
Margarita. (Johnston).
Baham., Antill., Bay of Honduras, Cartagena. (Symb.).

3734. **Gliricidia** H. B. K.

Gliricidia sepium Steud. Nomencl. II ed. I (1841) 688. Jeerba tónka, Mataratón, Ratoneera.

Curaçao: Blw (4755). — Suringar, — Britton & Shafer 3132.

Cultivated? [Mexico, Amer. centr., Nov. Granata.] (Symb.).

3747. **Sesbania** Scop.

Sesbania aculeata Poir. Encycl. VII. 128; Gris. Fl. 184.

Curaçao: Bat (5219). — Britton & Shafer 3120.

Cosmop. trop. (Gris. Flor.).

Sesbania grandiflora Pers. Syn. II (1807) 316.

Cultivated. [India orient., Austral. sept.]. (Symb.).

3793. **Aeschynomene** Linn.

Aeschynomene americana Linn. Spec. (1753) 713; Gris. Fl. 185.

Curaçao: M,. — Suringar, — Britton & Shafer 3015.

Antill., Amer. cont. trop. (Symb.).

Aeschynomene falcata P. DC. Prodr. II (1825) 322.

Curaçao: Si (5194); Bat (5215); Vat (5362); Krh (5599*a*). — Britton & Shafer 3041.

Brasilia, Amer. meridion. (Flor. Brasil. XV. 1).

Bolivia. (coll. Fiebrig).

3802. **Stylosanthes** Sw.

Stylosanthes hamata Taubert Mon. Stylos. (Nov. 1889) 22; *Stylosanthes procumbens* Sw. Prodr. (1788) 108; Gris. Fl. 188. Pienda sjimarón.

Curaçao: Bh (4767); S (5036); Vat (5097); Bat (5210*a*). — Britton & Shafer 3013.

Aruba: Siv (6313). — Suringar.

Bonaire: Fh (7246); Bolko (7364).

Baham., Antill., Amer. sept., Mexico, Amer. centr., Nova Granata. (Symb.).

3803. **Arachis** Linn.

Arachis hypogaea Linn. Spec. (1753) 741; Gris. Fl. 189. Pienda.

Cultivated. [Patria ignot.] (Symb.).

3807. **Desmodium** Desv.

Desmodium molle P. DC. Prodr. II (1825) 332; Gris. Fl. 188. Boontsji kabaai, Foengfoeng, Goorda kapaa.

Curaçao: Cas (4796); Kit (5491). — Aschenberg, — Suringar, — Lens 818, — Britton & Shafer 3099.

Bonaire: Rt (7160).

Antill., Amer. centr. and austr. (Symb.).

Desmodium spirale P.DC. Prodr. II (1825) 332; Gris. Fl. 188.

Curaçao: Kit (5496); M 18; M 13. — Suringar, — Britton & Shafer 2909.

Aruba: Mirh (6449); Mirh (6452*b*); Mirh (6453*i*); Nick (6490). — Suringar.

Bonaire: R (7027); Rh (7078).

Margarita. (Johnston).

Antill., Amer. cont. trop., Afr. trop., Ind. orient. and Ins. Pacif. (Symb.).

Desmodium supinum P. DC. Prodr. II (1825) 332;

Desmodium incanum P. DC. Prodr. II (1825) 332; Gris. Fl. 186.

Curaçao: Zt (5388).

Margarita. (Johnston).

Baham., Antill., Amer. cont. trop., Afr. trop. (Symb.).

3842. **Geoffraea** Linn.

Geoffraea superba H. et B. Pl. Aequin. II 69. t. 100. Paaloe die takki, Takki takki.

Curaçao: Cas (4808); Pit (4842); Sik_2 (5202*a*). — Suringar.

Bonaire: R (7141). — Suringar.

On Curaçao 9 finding places noted, on Bonaire 5; not seen on Aruba.

Amer. austr. (Ind. Kew.).

3856. **Abrus** Linn.

Abrus precatorius Linn. Syst. XII ed. II (1767) 472; Gris. Fl. 190. Makoeraa.

Curaçao: Be (5392). — Suringar.

Margarita. (Johnston).

Baham., Antill., Amer. cont. calid., Afr., Asia calid. (Symb.).

3857. **Clitoria** Linn.

Clitoria ternatea Linn. Spec. (1753) 753. Blomtsji die kokaliesji, Boontsji palooma, Jamaani tobaako.

Cultivated. [Afr. orient.] (Symb.).

3870. **Erythrina** Linn.

Erythrina velutina Willd. in Ges. Naturf. Freunde. Neue Schr. III (1801) 426; Gris. Fl. 199. Boontji die paaloe, Boontsji karta.

Curaçao: Bh (4773). — Aschenberg, — Suringar, — Britton & Shafer.

Aruba: Fonth (6465). — Suringar.

Jamaica, Venezuela to Brasil. (Gris. Fl.).

3882. **Galactia** Adans.

Galactia rubra Urb. in Symb. Antill. II (1900) 309;

Galactia longiflora Gris. Flor. W. I. (1860) p. 194 (p.p.). (Symb.).

Curaçao: Sh (4975).

Bonaire: Fk (7331).

Antill. (Symb.).

3892. **Cajanus** P. DC.

Cajanus indicus Spreng. Syst. III (1826) 248; Gris. Fl. 191. Wándoe.

Cultivated. [Warmer countries of both hemisph.] (Symb.).

3897. **Rhynchosia** Lour.

Rhynchosia minima P. DC. Prodr. II (1825) 385; Gris. Fl. 190. Jeerba ragadiesji.

Curaçao: Vw (4714); Cas (4794); Cas (4801); Wa_3 (5105*f*); Kit (5535). — Aschenberg, — Suringar, — Britton & Shafer 2977.

Aruba: L (6254). — Suringar.

Bonaire: R (7104); Rt (7152*a*). — Suringar.

Margarita. (Johnston).

Warmer countries of both hemisph. (Symb.).

3901. **Phaseolus** Linn.

Phaseolus longepedunculatus Mart. ex Benth. in Ann. Wien. Mus. II (1838) 141.

Curaçao: Hk (5081); Kit (5494); Kit (5498); M 20. — Went 1346.

Aruba: Siv (6328); Nick (6489). — Suringar.

Bonaire: Rt (7149); Rt (7156).

Brasilia. (Ind. Kew.).

Phaseolus lunatus Linn. Spec. (1753) 724.

Cultivated. [All trop. countries.] (Symb.).

Phaseolus vulgaris Linn. Spec. (1753) 723.
Cultivated. [Everywhere] (Ind. Kew.).

3905. **Vigna** Savi.

Vigna unguiculata Walp. Rep. I (1842) 779.
Cultivated. [Afr. trop.] (Symb.).

3909. **Lablab** Adans.

Lablab vulgaris Savi Diss. (1821) 19 t. 19 f. 8.
Cultivated. [Afr. trop.?] (Symb.).

134. Erythroxylaceae.

3956. **Erythroxylum** Linn.

Erythroxylum havanense Jacq. Enum. Pl. Carib. (1760) 21; *Erythroxylum obtusum* DC. Prodr. I (1824) 574; Gris. Fl. 113. p.p. (Symb.).
Curaçao: C (5008); Hh (5125).
Margarita. (Johnston).
Cuba, Isla de Pinos. (Symb.); St. Eustatius, Saba, St. Martin. (Boldingh I); Dominica, Trinidad, Bahia, Guiana. (Johnston).

135. Zygophyllaceae.

3968. **Guaiacum** Linn.

Guaiacum officinale Linn. Spec. (1753) 381; Gris. Fl. 134. Wajakaa.
Curaçao: Mah (4856). — Suringar, — Britton & Shafer 3023.
Aruba: Ajw (6345). — Suringar.
Bonaire: Joh (7216). — Suringar.

Observed on Curaçao especially in the Western part, 19 finding places, on Aruba 7, on Bonaire 4.

Margarita. (Johnston).
Baham., Antill., Amer. austr. (Symb.).

Guaiacum sanctum Linn. Spec. (1753) 382; Gris. Fl. 134. Beera, Boeloebarie, Wajakaa maatsjoe, Wajakaa sjimarón.

Curaçao: Hk (5073); Hk (5076); Kd (5332); Mrh (5623).

Aruba: Bek (6431); Savk (6547).

Bonaire: Soebh (7257). — Suringar.

On Curaçao 6 finding places noted, on Aruba 3, on Bonaire 3.

Florida austr., Key, Baham., Portorico, Cuba, Hispaniola. (Symb.).

3978. **Tribulus** Linn.

Tribulus terrestris Linn. Spec. (1753) 387, var. **cistoides** (L.) Olive., Fl. trop. Afr. vol. I (1868) 284; (Johnston);

Tribulus cistoides Linn. Spec. (1753) 387; Gris. Fl. 134. Angglo.

Curaçao: Rud (4606); Mo (4816*d*). — Suringar, — Went 1104, — Lens 807, — Britton & Shafer 3077.

Aruba: Siv (6320). — Suringar.

Margarita. (Johnston).

Trop. countries of both hemisph. (Symb.).

3979. **Kallstroemia** Scop.[1])

Kallstroemia caribaea Rydb. in Britton & Brown, an Ill. Fl. U. S. Sec. Edition.

Curaçao: Mo (4814).

Bonaire: Rt (7163).

Antill.

Kallstroemia curta Rydb. sp. nov. (in manuscr.)

A diffuse, branched annual; stems about 1 m. long, slender, prostrate, soon straw-coloured, sparingly hirsute; stipules small, subulate, about 2 mm. long, hirsute; leaves short, 1—2 cm. long; leaflets mostly 3 pairs, or on some of the branches only 2 pairs, obliquely oval, 3—10 mm. long, mucronate, denticulate, yellowish-green, glabrate above, hirsute beneath, the hairs in age with pustulate bases; peduncles 5 mm. long or less; sepals subulate, about 3 mm. long; petals not seen; fruit strigose, body 2—3 mm. high; beak about 1 mm., truncate conic, broader than high; nutlets when ripe dark-brown, with small, but rather acute tubercles on the back, strongly reticulate on the faces, with rather large and deep faveoles.

The fruit of this species resembles most that of **Kallstroemia brachystylis** Vail. of Southwestern United States and Northern Mexico, but the beak is still shorter and thicker, the tubercles smaller but rather more acute and

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[1]) Dr. Rydberg has named my Kallstroemia species and was so kind as to give me his description of K. curta n. sp.

the reticulations stronger. It is also characterized by its short leaves, few, small and crowded leaflets, short peduncles, and hairs with pustulate bases. These characters and the short beak separate it from the two other West Indian species, viz., **K. maxima** (L.) T. & G. and **K. caribaea** Rydb.

Curaçao: Rocky coastal hill, St. Joris Bay, March 20—27, 1913, Britton & Shafer 3096; Boldingh: near Mahoema, 4780.

Aruba: Boldingh: court of Sivi Sivi 6311.

137. Rutaceae.

3991. **Fagara** Linn.

Fagara flava Kr. et Urb. in Engl. Jahrb. XXI (1896) 571. Kalabarie.

Bonaire: (7324); (7328); Bonk(7487); Bonk (7494); Bonk (7495). — Suringar.

Bermud., Key Ins., Baham., Antill. (Symb.).

Fagara monophylla Lam. Ill. 1 (1791) p. 334 n. 1643; *Xanthoxylum ochroxylum* P. DC. Prodr. I (1824) 725; Gris. Fl. 138. Bossoea, Kaubaati.

Curaçao: Hk (5078); H_2 (5118); Sih (5189); Sik_2 (5263); Dh (5634).

Bonaire: Rk (7048); Soebh (7266).

Besides the finding places mentioned, still 4 noted on Bonaire; not seen on Aruba.

Antill., Venezuela, Nova Granata. (Symb.).

4047. **Pilocarpus** Vahl.

Pilocarpus racemosus Vahl Eclog. I (1796) p. 29 t. 10; Gris. Fl. 135. Boeraatsji.

Aruba: Fontk (6481).

Antill. (Symb.).

4084. **Amyris** Linn.

Amyris simplicifolia Karst. Flor. Columb. II (1858—69) p. 109. t. 158 f. 1;

Amyris maritima Gris. Flor. (1859) p. 174 (p.p.) (Urb. Engl. Jahrb. XXI. p. 609). Kauwbaati.

Curaçao: Beh (5523). — Suringar.

Bonaire: Montkr (7390).

Margarita? (Johnston).

Trinidad, Venezuela. (Urb. Engl. Jahrb. XXI).

4090. **Murraya** Linn.

Murraya exotica Linn. Mant. II (1771) 563.
Cultivated. [Ind. in Asia austro-orient., Austr. sept., Polynesie.]. (Symb.).

4094. **Triphasia** Lour.

Triphasia trifoliata P. D C. Prodr. I (1824) 536. Lamoentsji die Surinaam, Lamoentsji sjimarón.
Cultivated. [Ind. in India orient.] (Symb.).

4100. **Citrus** Linn.

Citrus aurantium Linn. Spec. (1753) 782.
Cultivated. [Asia austr.] (Symb.).

Citrus bigaradia Lôisel. in Duham. Arb. ed. nov. VII (1819) 99.
Cultivated. (Symb.).

Citrus decumana Linn Syst. XII ed. II (1767) 508. Pompelmoes.
Cultivated. (Symb.).

Citrus limetta Risso in Ann. Mus. Par. XX (1813) 195.
Cultivated. (Symb.).

Citrus limonum Risso in Ann. Mus. Par. XX (1813) 201. Lamoentsji.
Cultivated. (Symb.).

Citrus medica Linn. Spec. (1753) 782. Citroen.
Cultivated. [Asia austr.] (Symb.).

138. Simarubaceae.

4106. **Suriana** Linn.

Suriana maritima Linn. Spec. (1753) 284; Gris. Fl. 58.
Curaçao: Suringar, — Britton & Shafer 2931.
Aruba: Mankr (6286). — Suringar.
Bonaire: R (7182). — Suringar.
Margarita. (Johnston).
Trop. countries of both hemisph. (Symb.).

139. Burseraceae.

4150. **Bursera** Linn.

Bursera bonairensis Boldingh (n. sp.) ramulis crassiusculis, rufescentibus, glabris; foliis apice ramorum congestis, pinnatis 3—5 jugis, petiolo anguloso, foliolis distincte petiolatis, facile deciduis, oblongo-ovatis, basi parum obliqua, apice longius acuminatis, ramis floriferis ramosis multifloris, glabris; floribus ignotis; fructibus trigonis. Foliorum petiolus a basi usque ad jugum infimum usque 10 cm. longus, interstitia inter foliola 3—7 cm. longa, petioluli 0,3—0,5 cm. longi; foliola adulta 14 cm. longitudine, 3—8 cm. latitudine assequentia.

Fructus trigonus, valvis circ. 1,2 cm. longus, 0.7 cm. diametiens, pyrena loculo uno completo.

Sieja korraa. Plate III.

Curaçao: Suringar.

Aruba: Hills near Ajo (6345); Calcareous hills near Savaneta (6545).

Bonaire: Rincon (7062); Slope of Macutacao (7126) (type); Calcareous plateau of Bolivia (7273). — Suringar.

On Curaçao 14 finding places noted, on Aruba 5, on Bonaire 9.

Bursera simaruba Sarg. Gard. and For. III (1890) 260;

Bursera gummifera Jacq. Sel. (1763) 94 t. 65; Gris. Fl. 173. Paaloe sieja doesji, Paaloe sieja maatsjoe, Sieja blanko.

Curaçao: Nask (4690); Vw (4705); Vw (4715); Blw (4751); H_2 (5121*b*); Beh (5526). - Britton & Shafer 3103.

Aruba: Suph (6391); Nick (6492).

Widely spread on Curaçao, 34 finding places noted there, on Aruba 9, on Bonaire 14.

Margarita. (Johnston).

Florida, Key Ins., Baham., Antill., from Mexico to Nova Granata and Venezuela. (Symb.).

Bursera tomentosa Triana et Planchon in Prodr. Fl. Novae Granatensis. Ann. Sc. Nat. Ser. V. XIV (1872) 304;

Elaphrium Jacquinianum H. B. K. Nov. Gen. et Sp. VII. 23. t 613. Takamahak.

Curaçao; Nask (4695). — Suringar, — Britton & Shafer 3146.

Aruba: Ok_2 (6240); Hoh (6367).

Bonaire: R (7110). — Suringar.

Very general; on Curaçao 36 finding places noted, on Aruba 7, on Bonaire 16.

Nova Granata, Venezuela. (Trian. et Planch.).

140. Meliaceae.

4164. **Swietenia** Jacq.

Swietenia mahagoni Jacq. Enum. (1760) 20; Gris. Fl. 131. Mahók.
Cultivated. [Key Ins., Baham., Antill., Mexico, Amer. centr., Peru.] (Symb.).

4175. **Melia** Linn.

Melia azedarach Linn. Spec. (1753) 384.
Cultivated. [Warmer countries of both hemisph.] (Symb.).

4195. **Trichilia** Linn.

Trichilia trifolia Linn. Syst. Ed. X. 1020. Ceraasji maatsjoe, Sjimaroekoe maatsjoe.
Curaçao: Vw (4699); Bh (4759*c*); Wd (4940); Pk (5479). — Suringar, — Britton & Shafer 2911.

Observed on Curaçao only; 34 finding places noted, nearly always outside the lime region.

Venezuela, Cumana. (C. DC. Monogr. Ph. I).

141. Malpighiaceae.

4251. **Malpighia** Linn.

Malpighia glabra Linn. Spec. (1753) 425; Gris. Fl. 116. Sjimaroekoe.
Curaçao: Zt (5389); Be (5393); Be (5394); Be (5394). — Suringar.
Bonaire: R (7383); Fh (7335).
Margarita. (Johnston).
Tropical America. (Johnston).

Malpighia punicifolia Linn. Spec. (1762) 609; Gris. Fl. 116. Sjimaroekoe, Sjimaroekoe maatsjoe.
Curaçao: Vw (4704); Vw (4711); Bh (4757); Mh (4874); Seh (5692). — Aschenberg, — Suringar.
Aruba: Ok_2 (6230); Savh (6524); Savk (6551).
Bonaire: R (7106); Joh (7210); Joh (7213); Savk (7344). — Suringar.

Generally spread; on Curaçao 31 finding places noted, on Aruba 16, on Bonaire 17.

Margarita. (Johnston).
In Northern South America. (Johnston).

4252. **Bunchosia** L. Cl. Rich.

Bunchosia nitida L. Cl. Rich. ap. Jussieu in Ann. Mus. Par. XVIII (1811) 481. Sjimaroekoe kaasjoe.

Curaçao: Sik_2 (5244); Pew (5275); Pew (5276); K (5460).

Antill. (Symb.); Surinam. (Pulle).

4255. **Byrsonima** L. Cl. Rich.

Byrsonima crassifolia H. B. K. Nov. Gen. V (1821) 149; Gris. Fl. 114.

Curaçao: W (4925); Beh (5517).

Antill., Amer. austr. sept. (Symb.).

145. Polygalaceae.

4273. **Polygala** Linn.

Polygala angustifolia H. B. K. Nov. Gen. et Sp. V. 405, t. 511; Gris Fl. 28.

Curaçao: Bat (5209); Krh (5599). — Suringar, — Britton & Schafer 2917.

Aruba: Mirh (6453).

Bonaire: R (7025); Prw (7348).

Cuba and Mexico to Brasil. (Gris. Fl.).

147. Euphorbiaceae.

4299. **Phyllanthus** Linn.

Phyllanthus Euwensii Boldingh. (n. sp.) ramulis glabris in sicco bruneis, teretibus vel crassiusculis, plus minus tortuosis; stipulis aegre discernendis 0,5 mm. longis; foliis 2—4 mm. longe petiolatis, ellipticis usque lanceolatis, ad basin angustatis, apice acutatis vel obtusiusculis, 2,5—5,5 cm. longis 1,5—4 cm. latis, coriaceis, atroviridibus, supra lucentibus; fasciculis 2—7 floris ex axillis squamarum prodeuntibus in racemum elongatum collectis; pedicellis flor. masc. 1—3 mm. longis; sepalis 1 mm. longis, disci glandulis 6, planis, areolatis; staminibus 3 plane in columnam coalitis; pedicellis flor. fem. 1—3 cm. longis, sepalis 1 mm. longis, acutis; disco breviter cupuliformi, margine crenulato, basin ovarii

cingente; stylis in columnam ovario dimidio longiorem connatis.

Frutex; folia nervis prominulis; racemus masculinus usque ad 8 cm. longus; flores fasciculatae; racemus femininus usque ad 12 cm. longus; flores solitariae; fructus usque 8 mm. in diam.

Karkidaaki, Lokki-lokki. Plate IV.

Curaçao: Calcareous hills near Mahoema (4822); Slope of the Hieronymusberg (5121*a*); Road near Antonyberg (5141); Road near Wacao (5252); Calcareous soil near San Pedro (5279) (type); Calcareous hills and plateau Kleine Berg (5456). — Went, — Britton & Shafer 3108.

Aruba: Hills near Fontein (6442).

Bonaire: Rincon (7167); Road from Slagbaai to the Brandaris.

On Curaçao 25 finding places noted outside the lime region, 10 in it; on Aruba 19 finding places; on Bonaire 11.

Phyllanthus niruri Linn. Spec. (1753) 981; Gris. Fl. 34.

Curaçao: (6545).

Margarita. (Johnston).

In almost all warmer countries of both hemisph. (Symb.).

Phyllanthus polycladus Urb. Symb. I (1899) 333. var. γ **curassavicus** Urb. Symb. V (1908) 384.

Curaçao: Pek (5283); Hk (5313). — Suringar, — Britton & Shafer 2948.

Bonaire: Rk (7052); Rk (7053); Tolkz (7278); Zkr (7388).

In Curaçao on the higher calcareous table-lands 3 finding places were noted, on Bonaire 10, mostly on the higher calcareous table-lands; not observed on Aruba.

Ph. polycladus: Portorico, Guadeloupe. (Symb.).

4348. **Croton** Linn.

Croton curassavicus Boldingh. (n. sp.) monoecus, ramis, petiolis, foliis subtus, pedunculis pilis patentibus obsolete villosis; foliis 0,5—3,5 cm. longe petiolatis, ovato cordatis, apice acutis, margine grossodentatis, 2,5—8 cm. longis 1,5—5 cm. latis, supra glabratis, vel minute villosis; inflorescentibus cr. 5 cm. longis, inferne femineis, superne masculis; floribus solitariis, pedicellis 0,1 cm. longis; alabastris masculis 0,2—0,3 cm. longis; staminibus cr. 8—10; sepalis floribus femineis lanceolatis; stylis fere usque ad basin quadripartitis, ramis filiformibus; capsulis globulosis.

Frutex 0,1—0,5 m. altus. Folia petiolis subteretibus, glandulis basalibus

minutissimis, nervis lateralibus utroque latere 3—8 abeuntibus, chartacea, supra mox glabrata, pilis subtus obsolete villosis.

Inflorexentiae in apice ramorum et in axillis foliorum multiflorae, usque ad insertionem floriferae, flores solitarii. Flores masculi: sepala 0,25 cm. longa, 0,1 cm. lata, apice ciliata. Petala 0,25 cm. longa, 0,1 cm. lata, apice obsolete ciliata.

Disci glandulae crassiusculi. Filamenta 0,2 cm. longa; antherae 1 cm. longae. Flores feminei: sepala usque 0,5 cm. longa, 0,2 cm. lata, glandulosa. Petala non observata. Discus carnosus, quinque glandulis

Styli 0,5 cm. longi, ramis 4, 3—4 cm. longis. Capsulae 0,4 - 0,5 cm. longae. Semina 0,4 cm. longa, brunea.

Plate V.

Curaçao: Calcareous hills to the north of the road from Westpunt to Savonet (4955); Hills near Barber (5179) (type.); Hills near Choloma (5417, 5418).

Croton flavens Linn. Syst. X ed. II (1759) 1276; Gris. Fl. 38. Wilde salie.

Curaçao: Rih (4648); Mok (4826); H_2 (5121*e*); Hk (5131*i*); Pk (5475). — Aschenberg, — Suringar, — Went 1114, — Lens 839, — Britton & Shafer 2954.

Aruba: (6211); How (6359). — Suringar.

Bonaire: R (7087); Fk (7340). — Suringar.

Occurs in all the islands in nearly all the places visited.

Margarita. (Johnston).

Hispaniola, Portorico, St. Thomas, St. Jan. (Symb.); St. Eustatius, Saba, St. Martin. (Boldingh I); Baham. (Herb. Leiden).

Croton glandulosus Linn. Syst. X ed. II (1759) 1275; Gris. Fl. 41. Jeerba kareeta.

Curaçao: Bah (5175); Bah (5177); Wo (5446); Pk (5482); Hwk (5566); Krh C (5606); Dh (5627); (5733).

Bonaire: Montkr (7392); Montkr (7410).

Margarita. (Johnston).

Antill., Amer. cont. (Symb.).

Croton lobatus Linn. Spec. (1753) 1005; Gris Fl. 42. Jeerba kraabo.

Curaçao: Nasw (4685). — Suringar, — Britton & Shafer 3006.

Aruba: Fontt (6475*g*). — Suringar.

Bonaire: Suringar.

Margarita. (Johnston).

Antill., Amer. cont. trop. (Symb.).

Croton niveus Jacq. Enum. (1760) 32; Gris. Fl. 40. Barra blanko, Kivieti, Loembra blanko.

Curaçao: Vd (4740); C (4993); H_2 (5122); Sik_2 (5201); Kd (5333). — Aschenberg, — Suringar, — Britton & Shafer 3140.

Aruba: Bakk (6341); Hoh (6364); Mirh (6451).

Bonaire: Joh (7206); Soebh (7267); Brw (7317).

Occurs in Curaçao especially in the Western part, 12 finding places noted; on Aruba 8; on Bonaire 5.

Margarita. (Johnston).

Jamaica, Dominica, Columbia. (Johnston).

Croton ovalifolius Vahl in West. Bidr. Ste. Croix (1793) 307; Gris Fl. 41. Jeerba die seeroe, Jeerba tsjoebaatoe.

Curaçao: Cas (4788); Mok (4820); S (5035); Pk (5480); Kit (5536). — Suringar, — Went 1357, — Britton & Shafer 3070.

Aruba: Bakk (6340); Ajh (6349); Ajw (6354). — Suringar.

Bonaire: R (7102); PRw (7352). — Suringar.

Spread; 36 finding places noted.

Margarita. (Johnston).

West Indies and Venezuela. (Johnston).

4360. **Argithamnia** Sw.

Argithamnia candicans Sw. Prodr. (1788) 39; Gris. Fl. 44.

Curaçao: Wa_3 (5105*e*); Hk (5131*k*). — Suringar, — Britton & Shafer 2963.

Aruba: Jabh (6274); Bakk (6334); Ajh (6350); Fontt (6475*e*); Nick (6495*b*). — Suringar.

Margarita. (Johnston).

West Indies and Caribbean Islands. (Johnston).

4374. **Bernardia** Adans.

Bernardia corensis Müll.-Arg. in Linnaea XXXIV (1865, 66) 173; *Polyboea corensis* Klotzsch in Endl. Suppl. IV. III (1850) 88; Gris. Fl. 46.

Curaçao: W (4927*h*); Wo (4931); C (5022).

Bonaire: Bolko (7373); Zkr (7386).

Antill. (Herb. Krug et Urban).

4397. **Adelia** Linn.

Adelia ricinella Linn. Syst. X ed. II (1759) 1298; Gris. Fl. 45.

Curaçao: Mk (4891); W (4925); C (4989); A (5161); Hk (5420); Beh (5510); Beh (5512); Mrh_2 (5618).

Margarita. (Johnston).

Cuba, Jamaica, Hispaniola, Portorico, St. Thomas, St. Jan. (Symb.); St. Martin, St. Croix. (Boldingh I).

4407. **Acalypha** Linn.

Acalypha cuspidata Müll.-Arg. in D C. Prodr. XV. 2 p. 858. v. aff.

Curaçao: Vd (4739); Wo (4934); Kk (5409); Beh (5534).

Aruba: Ajh (6347); Hoh (6368).

Bonaire: Macb (7121); Joh (7211).

Antill., Brasilia. (D.C. Prodr. XV).

Acalypha Poiretii Spreng Syst. III (1826) 879.

Curaçao: W (4927*b*); Hatot (5341); Krk (5591*a*). — Aschenberg, — Suringar, — Britton & Shafer 2955.

Aruba: Bek (6429); Mirh (6445); Savw (6519).

Bonaire: Plah (7295).

St. Martin, Anguilla. (Boldingh I); St. Thomas. (Herb. Krug et Urban).

4422. **Dalechampia** Linn.

Dalechampia scandens Linn. Spec. (1753) 1054; Gris. Fl. 51. Treesdeedee.

Curaçao: W_2 (5064); Sk (4974).

Bonaire: R (7112).

Antill., Amer. cont. trop., (Afr. trop. and India or.) (Symb.).

4424. **Ricinus** Linn.

Ricinus communis Linn. Spec. (1753) 1007; Gris. Fl. 37. Karpaata.

Cultivated. [Indig. veris. in Africa.] (Symb.).

4433. **Jatropha** Linn.

Jatropha curcas Linn. Spec. (1753) 1006; Gris. Fl. 36. Schijtnoot.

Cultated. [Bermud., Antill., Amer. cont. trop.] (Symb.).

Jatropha gossypifolia Linn. Spec. (1753) 1006; Gris. Fl. 36. Flaira.

Curaçao: Rih (4649). — Suringar, — Lens 801, — Britton & Shafer.

Aruba: Ok_2 (6221). — Suringar.

Bonaire: R (7166).

Generally spread; on Curaçao 33 spots noted, on Aruba 15, on Bonaire 11.

Margarita. (Johnston).
Key Ins., Baham., Antill., Amer. cont. trop., Afr. occ. (Symb.).

Jatropha multifida Linn. Spec. (1753) 1000.
Cultivated. [Amer. cont. trop.] (Symb.).

Jatropha urens Linn. Spec. (1753) 1007. Bringga moosa.
Curaçao: Mok (4829); Sh (4971). — Britton & Shafer 3091.
Aruba: Hoh (6369). — Suringar.
Bonaire: Karh (7302).

On Curaçao especially frequent in the mountainous part of the Western half; 19 finding places noted; on Aruba generally spread, 11 spots noted; on Bonaire found in one place only, but there in great numbers.

Margarita. (Johnston).
Common in American tropics. (Johnston).

4444. **Manihot** Adans.

Manihot carthaginensis Müll.-Arg. in D C. Prodr. XV. 2 (1866) 1073. Bittere cassave, Cassave die moondi, Marihoeri, Yucca amaara.
Bonaire: Fk (7332); Skr (7430).
Amer. trop. centr. and austr. (Pax. Pflanzenr. IV. 147. II.).

Manihot utilissima Pohl. Plant. Bras. I (1827) p. 32 t. 24.
Cultivated. [Amer. cont. trop.] (Symb.).

4454. **Codiaeum** A. Juss.

Codiaeum variegatum Bl. Bijdr. XII (1825) 606.
Cultivated. [Ins. Sundaic.] (Symb.).

4468. **Hippomane** Linn.

Hippomane mancinella Linn. Spec. (1753) 1191; Gris. Fl. 50. Manzalienja.
Curaçao: Mo (4812). — Aschenberg, — Suringar, — Britton & Shafer 2981.
Aruba: Daz (6398).

Bonaire: Grkz (7175). — Suringar.

On Curaçao also occurring in the interior, 33 spots noted there; on Aruba 2; on Bonaire 4.

Margarita. (Johnston).

Florida austr., Baham., Antill., from Mexico to Venezuela. (Symb.).

4493. **Hura** Linn.

Hura crepitans Linn. Spec. (1753) 1008; Gris. Fl. 50. Zandkokerboom.

Cultivated. [Baham., Antill., Amer. cont. trop.] (Symb.).

4498. **Euphorbia** Linn. Jeerba die leetsji.

Euphorbia adenoptera Bertol. Misc. Bot. III. 20, t. 23, vel affin.

Curaçao: Mt (4862*a*); St (5056); Wa_3 (5103); H_2 (5121); Jt (5424); Jt (5425). — Britton & Shafer 2920, 2950, 3141.

Am. trop. (Ind. Kew.).

Euphorbia buxifolia Lam. Encycl. II (1786) 421; Gris. Fl. 53; *Euphorbia litoralis* H. B. K. Nov. Gen. II (1817) 54.

Curaçao: Suringar, — Britton & Shafer 2933.

Aruba: Ser (6511); Mansz (6554). — Suringar.

Bonaire: Okz (7237). — Suringar.

Margarita. (Johnston).

Bermud., Florida, Key Ins., Baham., Antill., Yucatan, Honduras, Venezuela, Brasilia. (Symb.).

Euphorbia cotinifolia Linn. Spec. (1753) 453; Gris. Fl. 52. Manzalienja boobo.

Curaçao: St (5051); Sik_3 (5260); Wo (5436). — Suringar.

Bonaire: Montkr (7402); Montkr (7415).

Trinidad, Venezuela, Nova Granata, Guiana. (Gris. Flor.).

Euphorbia heterophylla Linn. Spec. (1753) 453; Gris. Fl. 54.

Cultivated. [Baham., Antill., Amer. cont.] (Symb.).

Euphorbia hypericifolia Linn. Spec. (1753) 454; Gris. Fl. 54.

Curaçao: Suringar.

Aruba: Suringar.

Margarita. (Johnston).

Bermudas, Key Ins., Baham., Antill., from Mexico to Venezuela and Guiana. (Symb.).

Bonaire: Grkz (7175). — Suringar.

On Curaçao also occurring in the interior, 33 spots noted there; on Aruba 2; on Bonaire 4.

Margarita. (Johnston).

Florida austr., Baham., Antill., from Mexico to Venezuela. (Symb.).

4493. **Hura** Linn.

Hura crepitans Linn. Spec. (1753) 1008; Gris. Fl. 50. Zandkokerboom.

Cultivated. [Baham., Antill., Amer. cont. trop.] (Symb.).

4498. **Euphorbia** Linn. Jeerba die leetsji.

Euphorbia adenoptera Bertol. Misc. Bot. III. 20, t. 23, vel affin.

Curaçao: Mt (4862*a*); St (5056); Wa_3 (5103); H_2 (5121); Jt (5424); Jt (5425). — Britton & Shafer 2920, 2950, 3141.

Am. trop. (Ind. Kew.).

Euphorbia buxifolia Lam. Encycl. II (1786) 421; Gris. Fl. 53; *Euphorbia litoralis* H. B. K. Nov. Gen. II (1817) 54.

Curaçao: Suringar, — Britton & Shafer 2933.

Aruba: Ser (6511); Mansz (6554). — Suringar.

Bonaire: Okz (7237). — Suringar.

Margarita. (Johnston).

Bermud., Florida, Key Ins., Baham., Antill., Yucatan, Honduras, Venezuela, Brasilia. (Symb.).

Euphorbia cotinifolia Linn. Spec. (1753) 453; Gris. Fl. 52. Manzalienja boobo.

Curaçao: St (5051); Sik_3 (5260); Wo (5436). — Suringar.

Bonaire: Montkr (7402); Montkr (7415).

Trinidad, Venezuela, Nova Granata, Guiana. (Gris. Flor.).

Euphorbia heterophylla Linn. Spec. (1753) 453; Gris. Fl. 54.

Cultivated. [Baham., Antill., Amer. cont.] (Symb.).

Euphorbia hypericifolia Linn. Spec. (1753) 454; Gris. Fl. 54.

Curaçao: Suringar.

Aruba: Suringar.

Margarita. (Johnston).

Bermudas, Key Ins., Baham., Antill., from Mexico to Venezuela and Guiana. (Symb.).

Euphorbia hyssopifolia Linn. Syst. X ed. II (1759) 1048;
Euphorbia hypericifolia var. hyssopifolia Griseb. Flor. (1859) 54.

Curaçao: V (4730); Mo (4816*a*); St (5054*m*); Wa_3 (5101); Bat (5222); Pez (5290); Hk (5321); Ent (5434*c*); Krh C (5594); M 8; M 19. — Suringar, — Went 1351, — Lens 826, — Britton & Shafer 2996, 3098.

Aruba: Savh (6526).

Bonaire: Rt (7150); Bact (7473*e*).

Antill., Amer. cont. (Symb.).

Euphorbia pilulifera Linn. Spec. (1753) 454; Gris. Fl. 54.

Curaçao: Vat (5368). — Suringar, — Lens 821.

Aruba: Siv (6315*a*). — Suringar.

Margarita. (Johnston).

In warmer countries of both hemisph. (Symb.).

Euphorbia thymifolia Linn. Spec. (1753) 454, vel affin.;
Euphorbia maculata var. thymifolia Griseb. Flor. (1859) 53.

Curaçao: St (5055); Wa_3 (5101); Hk (5131*f*); Pek (5284); Hk (5317); Pik (5325); Kk (5405); Pk (5469). — Suringar, — Went 1107, — Britton & Shafer 2953.

Aruba: (5749); Ok_2 (6222); Mankz (6283); Back (6337); Camk (6381); Beh (6428*c*); Bez (6437); Fontz (6470); Serk (6483); Savw (6514). — Suringar.

Bonaire: Rk (7044); R (7179); Okz (7238); Grkz (7174*b*); Fz (7243); Soebh (7260); Bolko (7368); Skr (7437); Lagw (7453); Zoutz (7497). — Suringar.

Generally spread; 70 spots noted.

Margarita. (Johnston).

Tropical countries of both hemisph. (Symb.).

4501. **Pedilanthus** Neck.

Pedilanthus tithymaloides Poit. in Ann. Mus. Par. XIX (1812) 390. t. 19.

Cultivated. [Florida, Baham., Antill., Venezuela.] (Symb.).

153. Anacardiaceae.

4545. **Mangifera** Linn.

Mangifera indica Linn. Spec. (1753) 200; Gris. Fl. 176. Manggo.

Cultivated. [Asia austro-orient.] (Symb.).

4546. **Anacardium** Linn.

Anacardium occidentale Linn. Spec. (1753) 383; Gris. Fl. 176. Kaasjoe.

Cultivated. [In all warmer countries of America.] (Engler 1885).

4552. **Spondias** Linn.

Spondias Mombin Linn. Spec. (1753) 371;

Spondias lutea Linn. Spec. (1762) 613; Gris. Fl. 175. Hooba.

Seems to occur wild in non-calcareous regions on Curaçao; 8 spots noted.

Cultivated. [Tropical countries of both hemisph.] (Symb.).

Spondias purpurea Linn. Spec. (1762) 613; Gris. Fl. 175. Makka pruim.

Cultivated. [Antill., Mexico, Peru, Nova Granata.] (Engler 1883).

4591. **Metopium** Engl.

Metopium Brownei Urb. in Symb. Antill. V (1908) 402;

Rhus metopium Linn. Syst. X ed. II (1759) 964; Gris. Fl. 175. Manzalienja boobo.

Curaçao: Sik_2 (5203*d*); Hk (5311); R (5331); K (5458). — Britton & Shafer 3080.

Bonaire: Soebh (7268); Soebh (7283). — Suringar.

Occurs in Curaçao especially on high calcareous table-lands, 8 spots noted; not observed on Aruba; on Bonaire 9 places, mostly on lime.

Antill., Yucatan. (Symb.).

158. Celastraceae.

4626. **Maytenus** Molina.

Maytenus Versluysii Boldingh (n. sp.) ramulis hornotinis angulatis; foliis 3—6 mm. longe petiolatis, obovatis vel ellipticis, basi acutis et in petiolum protractis, apice rotundatis, 4—7 cm. longis, 1,5—3 cm. latis, nervo medio supra prominente, lateralibus prominulis, subtus paullo magis prominentibus, reticulato-anastomosantibus, coriaceis, margine paullo serratis; floribus fasciculatis, pedicellis floriferis 1—4 mm. longis; petalis 1—1,5 mm. longis.

Rami vetustiores nigro-grisei. Stipulae non vidi. Folia distiche alterna, utrinque nitida. Flores 5-meri, in axillis foliorum et ad nodos defoliatos ∞; pedicelli floriferi 0,3 mm. crassi. Sepala margine imbricata ± 1 mm. longa, margine denticellata. Petala apice rotundata, 1,5 mm. longa. Filamenta 0,5

mm. longa, antherae reniformes, 0,2 mm. longae. Discus ovarium cingens, 5-gonus. Stylus nullus: stigma crasse tuberculiforme. Ovarium 2-loculare. Fructus clavatus, 1,5 – 2 cm. longus, 0,7—1 cm. latus, in basi longe attenuatus, dehiscens, monospermus.

Plate VI.

Curaçao: Hills along the road from Westpunt to Savonet (4949); Mount Christoffel (4998); Hills near rooi Behoenda (5508).

Bonaire: Slope of Mount Lasalle (7232); Calcareous plateau Klein Bonaire (7491) (type.).

Maytenus Sieberiana Kr. et Urb. in Symb. Ant. V (1904) 60. vel affin.

Bonaire: Joh (7199); Joh (7201); Joh (7203); Soebh (7271); Montkr (7420).

Trinidad. (Symb.).

4649*. **Rhacoma** Linn.

cf. 4649. **Myginda** Jacq.

Rhacoma crossopetalum Linn. Syst. X ed. II (1759) 896;

Myginda rhacoma Sw. Prodr. I (1788) 39; Gris. Fl. 146; Johnston 232.

Myginda pallens Smith in Rees Cycl. XXV (1813) n. 4; Gris. Fl. 146. Plaaka sjikietoe.

Curaçao: Rih (4661); Mok (4828); Mk (4887); Sik (5184); Tk (5270); Hk (5316); Vat (5350). — Suringar.

Bonaire: R (7192); Soebh (7262). — Suringar.

On Curaçao 24 places noted; not observed on Aruba; on Bonaire 8 places.

Margarita. (Johnston).

Venezuela. (Johnston); Florida austr., Key, Baham., Antill., Columbia. (Symb.).

165. Sapindaceae.

4723. **Serjania** Plum.

Serjania curassavica Radlk. in Serjan. Sapind. monographice descript. (1875) 311. Behoekoe.

Curaçao: Wo (4933); Wo (4939); Sik_2 (5246); Dh (5635). — Suringar, — Britton & Shafer 3137.

Aruba: Jam (6298); Mirh (6460). — Suringar.
Bonaire: Macb (7124). — Suringar.
On Curaçao 12 finding places noted, on Aruba 2, on Bonaire 6.
Nova Granata. (Radlk. Serjan.).

4724. **Paullinia** Linn.

Paullinia pinnata Linn. Spec. (1753) 366; Gris. Fl. 124.
Curaçao: Beh (5513).
Antill., Amer. cont. trop., Afr. trop. (Symb.).

4726. **Cardiospermum** Linn.

Cardiospermum corindum Linn. Spec. (1762) 526. Kaboeja makoeto.
Curaçao: Kk (5408); Pk (5485). — Aschenberg, — Went 1328, — Britton & Shafer 3138.
Bonaire: Rk (7067). — Suringar.
All tropical countries. (Eng. und Prantl).

4739. **Sapindus** Linn.

Sapindus saponaria Linn. Spec. (1753) 367; Gris. Fl. 126. Savonet appel.
Curaçao: Aschenberg, — Suringar.
Margarita. (Johnston).
Cultivated? [In warmer parts of Americ.] (Symb.).

4760. **Melicocca** Linn.

Melicocca bijuga Linn. Spec. (1753) 495; Gris. Fl. 127. Keneepa.
Cultivated. [Amer. trop. from Nicaragua to Surinam.] (Symb.).

4800. **Blighia** Koen.

Blighia sapida Koen. in Koen. and Sims. Ann. bot. II (1806) 571; Gris. Fl. 125.
Cultivated. [Africa.] (Ind. Kew.).

169. Rhamnaceae.

4861. **Zizyphus** Adans.

Zizyphus spina cristi Willd. Spec. Pl. I. 1105.
Cultivated. [Afr. bor., Oriens.] (Ind. Kew.).

4862. **Condalia** Cav.

Condalia Henriquezii Boldingh (n. sp.) glaberrima; ramis patentibus spinescentibus; foliis breviter petiolatis cuneato-obovatis retusis, apice breviter distincte mucronulatis, integris; fasciculis 2—vel multifloris; pedicellis calyce duplo vel triplo longioribus; drupa globosa.

Arbor, rami numerosi, crassiusculi, annotini et biennes bruneo-cinerascentes, laeves. Spinae 6 cm. longae et longiores. Folia sparsa vel fasciculata, at latera spinarum una cum floribus propullantia, 2 cm. longa, 1,3 cm. lata, basis augustata, nervis lateralibus 2 vel 3, coriacea. Stipulae petiolo breviores, sessiles, trigonae, dense tomentosae. Flores in fasciculos collecti. Alabastra mitraeformia perpauce acuminata. Pedicelli filiformes. Calyx expansus 0,6 cm. latus, laciniis patentibus, acuminatis. Discus planus pentagonus. Stamina laciniis calycinis multo breviora. Filamenta antheris duplo vel triplo longiora. Antherae ovoideae. Ovarium disco semi immersum, stylus conicus. Drupa globosa, 0,6 cm. longa.

Bessji kabrieto, Paaloe die bessji. Plate VII.

Curaçao: Calcareous hills near Malpais (4894); Hills near Siberie (4976) (type.); Calcareous hills near Siberie (5267); Calcareous soil near Knip (5580); Hills to the east of Westpunt (5441); Seashore near St. Jan (5693). — Suringar, — Britton & Shafer 3056.

Bonaire: Rincon (7063, 7060).

Occurs only on Curaçao and Bonaire, 15 finding places noted.

4875*a*. **Krugiodendron** Urb.

Krugiodendron ferreum Urb. Symb. Ant. III (1902) 314;

Condalia ferrea Gris. Fl. W. I. (1859) 100.

Bonaire: Fk (7334); Bolko (7369). — Suringar.

Florida, Key Ins., Baham., Antill. (Symb.).

4882. **Colubrina** L. Cl. Rich.

Colubrina reclinata Brongn. in Ann. Sc. nat. I sér. X (1827) 369; Gris. Fl. 101.

Aruba: coll. Beaujon.

Florida, Key Ins., Baham., Antill., Venezuela. (Symb.).

170. Vitaceae.

4918. **Cissus** Linn.

Cissus sicyoides Linn. Syst. ed. X (1759) 897; Gris. Fl. 102;

Vitis sicyoides Miq. in Ann. Mus. Bot. Lugd. Bat. I (1863) 83. Kaboeja die klimop, Kaboeja die trankeer, Kaboeja korraa, Kaboeja makoeto, Wareeroe.

Curaçao: Vw (4716); Pit (4847); C (4988). — Aschenberg, — Suringar, — Britton & Shafer 3100.

Aruba: (6214). — Suringar.

Bonaire: Gh (7193). — Suringar.

Margarita. (Johnston).

Florida, Baham., Antill., Amer. cont. trop. (Symb.).

Cissus trifoliata Linn. Syst. X ed. II (1759) 897;

Cissus acida Linn. Spec. (1762) 170; Gris. Fl. 102. Wareeroe kroes.

Aruba: (6210). — Suringar.

Florida, Antill., Nova Granata, Guiana. (Symb.).

174. Tiliaceae.

4953. Corchorus Linn.

Corchorus acutangulus Lam. Encycl. (1786) II. 104; Gris. Fl. 97.

Bonaire: R (7084).

Margarita. (Johnston).

Common to all tropical countries. (Johnston).

Corchorus hirsutus Linn. Spec. (1753) 530; Gris. Fl. 97.

Curaçao: Cas (4797); Beh (4921); W_2 (5066); Sik_3 (5262*d*); Vat (5365); Be (5400); Hwz (5563). — Britton & Shafer 3073.

Aruba: Fonth (6465); Fontz (6469); Ser (6508). — Suringar.

Bonaire: Rk (7056); Rk (7075); Okz (7236); Plh (7286). — Suringar.

Found spread on Curaçao, 37 spots noted; on Bonaire 15; only 3 on Aruba, within the Fontein district.

Margarita. (Johnston).

Baham., Antill., Afr. trop. (Symb.).

Venezuela. (Johnston).

Corchorus orinocensis H. B. K. Nov. Gen. V (1821) 337.

Curaçao: Hato (5345); Be (5396); Ent (5434). — Aschenberg, — Suringar, — Britton & Shafer 3134.

Bonaire: R (7020); R (7113).

Antill., Arizona, Mexico, Nova Granata, Venezuela, Peru, Bolivia. (Symb.).

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175. Malvaceae.

4983. **Abutilon** Adans.

Abutilon hirtum Sweet. Hort. Brit. I ed. I (1826) 53;
Abutilon indicum var. hirtum Griseb. Flor. (1859) 78.
Curaçao: Suringar.
Aruba: locality unknown.
Florida, Key Ins., Antill., Peru, Afr. trop., Asia austro-orient. (Symb.).

Abutilon umbellatum Sweet. Hort. Brit. I ed. I (1826) 53; Gris. Fl. 78.
Curaçao: Vw (4718); Mo (4810); Mo (4811); Sc (4984); A (5150); Bat (5235); Krh C (5607). — Suringar, — Britton & Shafer.
Aruba: (5751*b*); — L (6253). — Suringar.
Bonaire: R (7015). — Suringar.
Margarita. (Johnston).
Antill., Mexico, Nova Granata. (Symb.).

4995. **Malvastrum** A. Gray.

Malvastrum coromandelianum Garcke in Bonplandia V (1857) 295;
Malvastrum tricuspidatum A. Gray Pl. Wright. I (1852) 16; Gris. Fl. 72.
Curaçao: Hato (5347). — Suringar.
Tropical countries of both hemisph. (Symb.).

Malvastrum spicatum A. Gray in Mem. Am. Acad. N. S. IV (1849) 22; Gris. Fl. 72. Jeerba die sjon ija, Jeerba grawatadoo, Leleeko.
Curaçao: Rud (4610); Mo (4809); Wa_3 (5105*b*); A (5151*a*); Bat (5237); Vat (5354*b*). — Aschenberg, — Suringar, — Went 1348, — Lens 703, 828; — Britton & Shafer 2959.
Aruba: Siv (6327); Suph (6404); Mirh (6445*b*); Mirh (6453*e*). — Suringar.
Bonaire; R (7012); R (7024). — Suringar.

Spread; on Curaçao 11 places noted, on Aruba 4, on Bonaire 6.

Margarita. (Johnston).
Tropical countries of both hemisph. (Symb.).

4998. **Sida** Linn.

Sida acuta Burm. Flor. Ind. (1768) 147;
Sida carpinifolia Linn. fil. Suppl. (1781) 307; Gris. Fl. 73; Boldingh I 127.

Curaçao: Aschenberg.
Margarita. (Johnston).
In warmer countries of both hemisph. (Symb.).

Sida ciliaris Linn. Syst. Ed. X (1759) 1145; Gris. Fl. 73.
Curaçao: V (4723); S (5034); Wa_3 (5105*d*); Pih (5328*a*). — Suringar, — Britton & Shafer 3125.
Aruba: locality unknown. — Suringar.
Margarita. (Johnston).
In tropical America. (Symb.).

Sida procumbens Sw. Prodr. (1788) 101;
Sida supina l'Hér. Stirp. Nov. (1789) 109 bis; Gris. Fl. 75; Boldingh I 129.
Curaçao: V (4725); Bh (4770*a*); Mok (4818); S (5033); Wa_3 (5105*c*).— Aschenberg, — Suringar, — Lens 704, — Britton & Shafer 3048.
Aruba: (6204); Siv (6306); Bek (6421); Mirh (6453*g*); Mansz (6557). — Suringar.

On Curaçao 19 finding places noted, on Aruba 4, on Bonaire 10.

Key Ins., Baham., Antill., from Mexico to Venezuela. (Symb.).

Sida spinosa Linn. Spec. (1753) 683; Gris. Flor. 74. Jeerba foekoe.
Curaçao: Cas (4805); Mok (4817); St (5060). — Aschenberg, — Suringar, — Went 1343, — Britton & Shafer 2921, 3007.
Aruba: Suringar.
Bonaire: R (7032); R (7085). — Suringar.
Asia, Africa, America. (E. u. P.).

Sida spinosa var. **angustifolia** Griseb. Fl. W. I. 74;
Sida angustifolia Lam. Encycl. vol. I (1783) 4. Bassoora pleintsji, Foengfoeng homber.
Curaçao: Mo (4815*a*); St (5054*p*); Si (5195); Pe (5307). — Aschenberg, — Suringar.
Aruba: Ok_2 (6234); Siv (6321); Mirh (6445*g*); Mirh (6452*a*).
Bonaire: R (7101).
Magarita. (Johnston).
Trop. countries of both hemisph. (Johnston).

5001. **Bastardia** H. B. K.

Bastardia viscosa H. B. K. Nov. Gen. V (1821) 199; Gris. Fl. 80.

Curaçao: Vw (4720); Bh (4760); S (5031); A (5157); Bat (5236); Vat (5354 *a*). — Suringar, — Britton & Shafer 2976.

Aruba: Mirh (6457). — Suringar.

Bonaire: R (7006); Karh (7305). — Suringar.

29 Finding places noted.

Margarita. (Johnston).
Baham., Antill., from Mexico to Peru. (Symb.).
Venezuela. (Johnston).

5005. **Malachra** Linn.

Malachra alceifolia Jacq. Coll. II (1788) 350. Giambo sjimarón.

Curaçao: S_2 (5047); Bat (5229); Hatot. — Britton & Shafer 3075.

Aruba: Fontt (6475 *d*).

Bonaire: (7325).

Antill., from Panama to Guiana. (Symb.).

5006. **Urena** Linn.

Urena lobata Linn. Spec. (1753) 692; Gris. Fl. 81.

Aruba: locality unknown.

Warmer countries of both hemisph. (Symb.).

5013. **Hibiscus** Linn.

Hibiscus brasiliensis Linn. Spec. (1763) 977;

Hibiscus phoeniceus Jacq. Hort. Vind. III (1776) 11 t. 14; Gris. Fl. 85.

Curaçao: Vw (4709); Mok (4822); A (5144); A (5156). — Suringar, — Britton & Shafer.

Baham., Antill., Amer. centr., Nova Granata, Venezuela, Guiana. (Symb.)

Hibiscus esculentus Linn. Spec. (1753) 696. Giambo.

Cultivated. [Tropical countries of the Old World.] (Symb.).

Hibiscus Rosa-sinensis Linn. Spec. (1753) 694.
Cultivated. [Asia trop.] (Symb.).

5018. **Thespesia** Soland.

Thespesia populnea Soland. ex Corra in Ann. Mus. Par. IX (1807) 290; Gris. Fl. 87. Otaheite.
Curaçao: Rif (4642). — Aschenberg, — Suringar.
Margarita. (Johnston).
All tropical countries. (Johnston).

5019. **Cienfuegosia** Cav.

Cienfuegosia heterophylla Garcke in Bonplandia vol. 8. (1860) 150.
Aruba: Camk (6383).
Margarita. (Johnston).
Brazilia, Venezuela, Columbia, Peruvia, Antill., Florida. (Gürke in Mart. Flor. Bras. XII).

5020. **Gossypium** Linn.

Gossypium hirsutum Linn. Spec. (1763) 975. Katoena.
Curaçao: Be (5395).
Aruba: locality unknown.
Bonaire: Montkr (7391).
Antill. (Symb.).

177. Bombacaceae.

5026. **Ceiba** Médik.

Ceiba pentandra Gärtn. Fruct. II (1791) 244 t. 133;
Eriodendron anfractuosum DC. Prodr. I (1824) 479; Gris. Fl. 88. Katoenboom.
Cultivated. [Amer. trop., Afr. trop., Asia trop.] (Symb.).

5034. **Ochroma** Swartz.

Ochroma lagopus Sw. Prodr. (1788) 98; Gris. Fl. 88.
Cultivated. [From Mexico to Bolivia.] (Symb.).

178. Sterculiaceae.

5057. **Melochia** Linn.

Melochia pyramidata Linn. Spec. (1753) 774; Gris. Fl. 93.

Curaçao: Symb.

In warmer countries of both hemisph. (Symb.).

Melochia tomentosa Linn. Syst. ed. X (1759) 1140; Gris. Fl. 93. Bassoora korraa, Betoonika.

Curaçao: Vp (4743); Bh (4759*c*); Hh (5130); Si (5192); Vat (5354); Hwk (5565). — Suringar, — Lens 814, — Britton & Shafer 2913.

Aruba: Ok_2 (6243); Mirh (6461); Nick (6498). — Suringar.

Bonaire: R (7010); Pl h (7287); Montkr (7418). — Suringar.

Spread; 80 finding places noted.

Margarita. (Johnston).

Baham., Antill., Amer. cont. trop. (Symb.).

5059. **Waltheria** Linn.

Waltheria americana Linn. Spec. (1753) 673; Gris. Fl. 95; *Waltheria indica* Linn. Spec. (1753) 673. Jeerba die leeba.

Curaçao: St (5057); Jt (5426); Krh C (5603); (5730).

Bonaire: R (7116); Zoutkg (7502). — Suringar.

6 Finding places noted on Curaçao and Bonaire each; not observed on Aruba.

Margarita. (Johnston).

In all warmer countries of both hemisph. (Symb.).

5063. **Ayenia** Loefl.

Ayenia magna Linn. Syst. ed. X. (1759) 1247; Gris. Fl. 91.

Curaçao: Vw (4703); Bh (4759); Vat (5098). — Aschenberg, — Suringar, — Britton & Shafer 3118.

Bonaire: R (7099); Montkr (7405).

On Curaçao 18 finding places noted, on Aruba 1, on Bonaire 3.

Jamaica, Mexico, Yucatan, Venezuela. (Gris. Fl.).

5069. **Guazuma** Adans.

Guazuma ulmifolia Lam. Enc. III (1789) 52; Gris. Fl. 91. Goeaazoema.

Cultivated. [Amer. trop.] (Symb.).

187. Guttiferae.

5176. **Mammea** Linn.

Mammea americana Linn. Spec. (1753) 512; Gris. Fl. 108. Mammeia.

Cultivated. [Baham., Antill., Nova Granata, Guiana, cultivated in tropical countries of both hemisph.] (Symb.).

5181. **Clusia** Linn.

Clusia rosea Jacq. Enum. Pl. Carib. (1760) 34; Gris. Fl. 107. Dam maatsjoe, Koetsjoe, Kopijk, Tam maatsjoe.

Curaçao: C (5018).

Bonaire: Fk (7336); Fk (7338); Fk (7343).

Baham., Antill., Panama, Venezuela. (Symb.).

195. Cochlospermaceae.

5251. **Amoreuxia** Moç. et Sessé.

Amoreuxia palmatifida Moç. et Sessé ex D C. Prodr. II (1825) 638; *Amoreuxia Schiedeana* Planch. in Hook. Lond. Journ. Bot. (1846) 140. t. 1; *Euryanthe Schiedeana* Cham. et Schlechtd. in Linnaea V (1830) 224. Manoeweeri.

Curaçao: Sk (5045); Sk (5046).

Amer. bor. (Ind. Kew.); Mexico. (Cham. et Schlechtd. l. c.).

199. Flacourtiaceae.

5337. **Samyda** Linn.

Samyda dodecandra Jacq. Enum. (1760) 21;
Samyda serrulata Linn. Spec. (1762) 558; Gris. Fl. 25; Boldingh I 136.

Curaçao: Wo (4938); Wd (4941); Beh (5530).

Bonaire: Soebh (7269).

Antill. (Symb.).

5343. **Casearia** Jacq.

Casearia bonairensis Boldingh. (n. sp.) inermis, ramis glabris, stipulis filiformis 0,5 cm. longis; foliis 1—1,7 cm. longe petiolatis,

ellipticis, basi et apice acuminatis, 4—9 cm. longis, 2,5—5 cm. latis, margine crenulatis, maturis rigide coriaceis; inflorescentiis axillaribus, corymbose 3—6 floris, pedicellis 1,5 cm. longis, supra basin articulatis; calyce 0,7—0,8 cm. longo, in $^1/_5$ alt. gamosepalo, lobis cucullatis; staminibus circ. 12 ex ore tubi calycinis abeuntibus; staminodiis cum staminibus insertis iisque alternantibus, pilosulis; ovario fusiforme, stylo duplo longiore, stigmate capitato; fructu globoso 3—4 cm. longo et crasso.

Frutex vel arbor parvus, rami vetustiores grisei vel brunei. Folia coriacea, nervo medio sypra immerso, subtus prominente, lateralibus 4—12 prominulis, adulte nitida. Pedunculus parvus, bracteae 0,3 cM. longae; pedicelli ca. 0,1 cM. supra basin articulati. Calyx glaberrimus. Stamina et staminodia perigyna; filamenta 0,4—0,5 cM. longa, glaberrima; antherae basi affixae 0,15 cM. longae. Staminodia 0,05 cm. longa et lata, dense pilosa. Ovarium 0,2 cm. longum, longuiscule pilosum; stylus 0,1 cm. longus. Fructus exocarpio carnoso, 3—4 cm. longus. Semina numerosa, 0,5 cm. longa.

Paaloe die Bonaire, Geelhout. Plate VIII.

Curaçao: Hills near Rif (4696); Hills to the east of Westpunt (4942) (type.). — Suringar, — Britton & Shafer 3055.

Aruba: Slope of Hooiberg (6366). — Suringar.

Bonaire: Rincon (7038). — Suringar.

On Curaçao 30 finding places noted; not seen eastward of the Schottegat; on Aruba 18, on Bonaire 16 places.

201. Turneraceae.

5357. **Piriqueta** Aubl.

Piriqueta ovata Urb. Turner. Jahrb. Bot. Gart. u. Mus. Berlin II. (1883) 76.

Curaçao: Vp (4744); Mo (4816*f*); St (5059); Vat (5097*a*); Aw (5164*a*). — Suringar, — Britton & Shafer 2967.

Bonaire: R (7030); R (7382); PRw (7350).

Portorico, Hispaniola. (Symb.).

5360. **Turnera** Linn.

Turnera pumilea Linn. Syst. X ed. II (1759) 965; Gris. Fl. 297.

Curaçao: Vat (5097*b*); Bah (5172). — Suringar, — Britton & Shafer 3049.

Aruba: Mirh (6453*c*); Savk (6543).

Portorico, Cuba, Pinos, Jamaica, Amer. austr. (Symb.).

Turnera ulmifolia Linn. Spec. (1753) 271; Gris. Fl. 296.

Curaçao: Wo (5452). — Suringar, — Britton & Shafer 3155.

Margarita. (Johnston).

Antill., from Amer. centr. to Guiana. (Symb.).

203. Passifloraceae.

5372. **Passiflora** Linn.

Passiflora foetida Linn. Spec. (1753) 959; Gris. Fl. 294. Bel appel, Koroona die la birgi, Kruizebloem, Maraaka, Markoesa, Sjonsjon, Sosoro.

Curaçao: Vw (4701); Hz (5108). — Suringar, — Britton & Shafer 2970.

Aruba: (6216). — Suringar.

Bonaire: R (7107); Montkr (7407). — Suringar.

17 Finding places noted.

Margarita. (Johnston).

Baham., Antill., warmer countries of America, Afr. trop., Asia austro-orient. (Symb.).

Passiflora suberosa Linn. Spec. (1753) 958; Gris. Fl. 290. Bessji die tinta, Nehoeba.

Curaçao: V (4726); W (4926); Wa_3 (5107). – Britton & Shafer 2975.

Aruba: Savw (6515).

Bonaire: Rk (7042); Soebh (7263); Montkr (7396).

17 Finding places noted.

Florida austr., Key Ins., Baham., Antill., Amer. cont. trop. to Argentinia. (Symb.).

205. Caricaceae.

5377. **Carica** Linn.

Carica Papaya Linn. Spec. (1753) 1026. Papay.

Cultivated. [Patria ignota.] (Symb.).

206. Loasaceae.

5383. **Mentzelia** Linn.

Mentzelia aspera Linn. Spec. (1753) 516; Gris. Fl. 298. Amooro

falso, Daalpeega, Moora, Peega peega, Peega saaja sjimarón, Pessji pessji.

Curaçao: Cas (4802); Wk (4957); Aw (5140); Ent (5432); Kit (5538); Kit (5542); M 4. — Aschenberg, — Suringar, — Lens 840, — Britton & Shafer 2914.

Aruba: Ok_2 (6237). — Suringar.

Bonaire: Suringar.

17 Finding places noted in all, of which 2 on Bonaire.

Margarita. (Johnston).

Antill., warmer countries of Amer. cont. (Symb.).

210. Cactaceae.

5401. **Cereus** Mill.

Cereus griseus Haw. Syn. Pl. Succ. (1812) 182;

Lemairocereus griseus Britton & Rose in Contr. U. St. Nat. Herb. vol. XII (1909). Daatoe, Kadoesji, Jaatoe.

Curaçao: | **Aruba**: | **Bonaire**: } Widely dispersed over the three Islands.

Margarita. (Johnston).

Mexico, Venezuela. (Schumann Mon. Cact.).

Cereus Napoleonis Grah. in Bot. Mag. t. 3458.

Aruba: only seen and collected near Tankie Leendert.

Antill. (Schumann Mon. Cact.).

Cereus repandus Haw. Syn. Pl. Succ. (1812) 183;

Cereus Hermannianus Suringar in Melocacti Novi. in Versl. en Med. Kon. Akad. 3e Reeks. Deel II (1865) 194. Kadoesji.

Curaçao: | **Aruba**: | **Bonaire**: } Widely dispersed over the three Islands.

5403. **Cephalocereus** Pfeiff.

Cephalocereus lanuginosus Britton & Rose in Contr. U. S. Nat. Herb. vol. XII (1909). Breebee die poesji, Kadoesji die poesji, Kadoesji spanjool.

Curaçao: | **Aruba**: | **Bonaire**: } Dispersed over the three Islands, but not in such quantities like the two Cereus species.

5409. **Melocactus** Link et Otto.[1])

Boesji, Kabeez indian, Kabeez inglees, Melon die seeroe.

Melocactus aciculosus J. V. Suringar in Contributions Melocactus (1901) 23.

Curaçao.

Melocactus albispinus W. F. R. Suringar in Melocacti novi (1889) 446.

Aruba.

Melocactus albispinus forma **quadrispina** W. F. R. Suringar in Melocacti novi (1889) 446.

Aruba.

Melocactus appropinquatus J. V. Suringar in Contributions Melocactus (1901) 20.

Curaçao.

Melocactus approximatus W. F. R. Suringar in Melocacti novi (1885) 189.

Aruba.

Melocactus arcuatus W. F. R. Suringar in Melocacti novi (1889) 450.

Aruba.

Melocactus argenteus W. F. R. Suringar in Melocacti novi (1889) 439.

Aruba.

Melocactus argenteus var. **tenuispina** W. F. R. Suringar in Melocacti novi (1889) 439.

Aruba.

Melocactus armatus W. F. R. Suringar in Melocacti novi (1889) 458.

Aruba.

Melocactus Baarsianus W. F. R. Suringar in Melocacti novi (1889) 448.

Aruba.

Melocactus Bargei J. V. Suringar in Contributions Melocactus (1901) 9.

Curaçao.

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1) I did not study the species of Melocactus but compiled this enumeration from the quoted publications of W. F. R. and J. V. Suringar.

Melocactus Besleri Miq. in Monogr. Generis Melocacti. (1841).
Aruba.

Melocactus Buysianus J. V. Suringar in Contributions Melocactus (1901) 38.
Curaçao.

Melocactus capillaris W. F. R. Suringar in Melocacti novi (1889) 442.
Aruba.

Melocactus communiformis W. F. R. Suringar in Vijfde Bijdrage tot de kennis der Melocacti (1897) 186.
Curaçao.

Melocactus compactus W. F. R. Suringar in Melocacti novi (1889) 444.
Aruba.

Melocactus (radiatus) contortus W. F. R. Suringar in Melocacti novi (1889) 445.
Aruba.

Melocactus cordatus J. V. Suringar in Nouvelles Contributions Melocactus (1910) 5.
Aruba.

Melocactus cornutus W. F. R. Suringar in Melocacti novi (1885) 191.
Curaçao.

Melocactus cylindricus J. V. Suringar in Nouvelles Contributions Melocactus (1910) 19.
Curaçao.

Melocactus (stellatus) dilatatus W. F. R. Suringar in Melocacti novi (1889) 454.
Aruba.

Melocactus dilatatus var. **leucanthus** W. F. R. Suringar in Melocacti novi (1889) 454.
Aruba.

Melocactus eburneus W. F. R. Suringar in Melocacti novi (1889) 447.
Aruba.

Melocactus eburneus forma **plurispina** W. F. R. Suringar in Melocacti novi (1889) 447.

Aruba.

Melocactus elongatus W. F. R. Suringar in Melocacti novi (1889) 451.

Aruba.

Melocactus euryacanthus W. F. R. Suringar in Melocacti novi (1889) 447.

Aruba.

Melocactus Evertszianus W. F. R. Suringar in Melocacti novi (1885) 190.

Aruba.

Melocactus exsertus W. F. R. Suringar in Vijfde Bijdrage tot de kennis der Melocacti (1897) 189.

Curaçao.

Melocactus exsertus forma **plurispina** W. F. R. Suringar in Vijfde Bijdrage tot de kennis der Melocacti (1897) 189.

Curaçao.

Melocactus extensus W. F. R. Suringar in Melocacti novi (1889) 442.

Aruba.

Melocactus (rubellus) ferox W. F. R. Suringar in Melocacti novi (1885) 185.

Aruba.

Melocactus (rubellus) ferus W. F. R. Suringar in Melocacti novi (1889) 444.

Aruba.

Melocactus firmus J. V. Suringar in Contributions Melocactus (1901) 17.

Curaçao.

Melocactus flammeus W. F. R. Suringar in Melocacti novi (1889) 457.

Aruba.

Melocactus (stellatus) flavispinus W. F. R. Suringar in Melocacti novi (1889) 453.

Aruba.

Melocactus flexilis W. F. R. Suringar Melocacti novi (1889) 453.
Aruba.

Melocactus flexus W. F. R. Suringar in Melocacti novi (1889) 441.
Aruba.

Melocactus gilvispinus J. V. Suringar in Contributions Melocactus (1901) 28.
Curaçao.

Melocactus gracilis J. V. Suringar in Nouvelles Contributions Melocactus (1910) 16.
Curaçao.

Melocactus grandis J. V. Suringar in Nouvelles Contributions Melocactus (1910) 11.
Curaçao.

Melocactus grandispinus J. V. Suringar in Nouvelles Contributions Melocactus (1910) 12.
Curaçao.

Melocactus grollianus W. F. R. Suringar in Vijfde Bijdrage tot de kennis der Melocacti (1897) 190.
Curaçao.

Melocactus (rubellus) hexacanthus W. F. R. Suringar in Melocacti novi (1885) 185.
Aruba.

Melocactus humilis J. V. Suringar in Nouvelles contributions Melocactus (1910) 17.
Aruba.

Melocactus incurvus W. F. R. Suringar in Melocacti novi (1889) 441.
Aruba.

Melocactus incurvus var? **nanus** W. F. R. Suringar in Melocacti novi (1889) 441.
Aruba.

Melocactus (stellatus?) inflatus W. F. R. Suringar in Melocacti novi (1889) 454.
Aruba.

Melocactus intermedius W. F. R. Suringar in Melocacti novi (1885) 192.
Curaçao.

Melocactus intermedius var. **laticostatus** J. V. Suringar in Contributions Melocactus (1901) 15.
Curaçao.

Melocactus intermedius var. **rotundatus** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 9.
Curaçao.

Melocactus intermedius var. **tenuispinus** J. V. Suringar in Contributions Melocactus (1901) 17.
Curaçao.

Melocactus inversus J. V. Suringar in Contributions Melocactus (1901) 19.
Curaçao.

Melocactus Koolwijkianus W. F. R. Suringar in Melocacti novi (1885) 184.
Aruba.

Melocactus Koolwijkianus var. **adustus** W. F. R. Suringar in Melocacti novi (1889) 438.
Aruba.

Melocactus Koolwijkianus forma **4-spina** W. F. R. Suringar in Melocacti novi (1889) 438.
Aruba.

Melocactus Koolwijkianus forma **plurispina** W. F. R. Suringar in Melocacti novi (1889) 439.
Aruba.

Melocactus limis W. F. R. Suringar in Melocacti novi (1889) 440.
Aruba.

Melocactus Lehmannii Miq. Monogr. Gen. Melocacti (1841) 71.
Curaçao.

Melocactus lutescens J. V. Suringar in Nouvelles Contributions Melocactus (1910) 13.
Curaçao.

Melocactus macracanthus forma **elegans** W. F. R. Suringar in Melocacti novi (1885) 191.
Bonaire.

Melocactus macracanthus var. **miacanthus** J. V. Suringar in Contributions Melocactus (1901) 30.
Curaçao.

Melocactus martialis W. F. R. Suringar in Melocacti novi (1889) 443.
Aruba.

Melocactus microcarpus J. V. Suringar in Nouvelles Contributions Melocactus (1910) 3.
Aruba.

Melocactus microcephalus var. **olivascens** W. F. R. Suringar in Melocacti novi (1889) 461.
Curaçao.

Melocactus Monvilleanus Miq. in Nov. Act. Nat. Cur. XVIII. Suppl. 1 (1841) 113.
Aruba.

Melocactus obliquus W. F. R. Suringar in Melocacti novi (1889) 440.
Aruba.

Melocactus obliquus forma **4-spina** W. F. R. Suringar in Melocacti novi (1889) 440.
Aruba.

Melocactus obovatus W. F. R. Suringar in Melocacti novi (1889) 453.
Aruba.

Melocactus ovatus W. F. R. Suringar in Melocacti novi (1889) 456.
Aruba.

Melocactus parvispinus W. F. R. Suringar in Melocacti novi (1885) 183.
Bonaire.

Melocactus patens W. F. R. Suringar in Melocacti novi (1885) 190.
Bonaire.

Melocactus pentacanthus W. F. R. Suringar in Melocacti novi (1889) 445.
Aruba.

Melocactus pinguis J. V. Suringar in Contributions Melocactus (1901) 11.
Curaçao.

Melocactus pinguis var. **areolosus** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 7.
Curaçao.

Melocactus pinguis var. **laticostatus** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 19.
Curaçao.

Melocactus pinguis var. **planispinus** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 15.
Curaçao.

Melocactus pinguis var. **tenuissimus** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 20.
Curaçao.

Melocactus pulvinosus W. F. R. Suringar in Melocacti novi (1889) 458.
Aruba.

Melocactus pusillus W. F. R. Suringar in Melocacti novi (1885) 192.
Curaçao.

Melocactus pyramidalis Salm-Dyck. Obs. bot. p. 4.
Curaçao.

Melocactus pyramidalis var. **compressus** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 4.
Curaçao.

Melocactus pyramidalis var. **costis angustioribus** J. V. Suringar in Contributions Melocactus (1901) 35.
Curaçao.

Melocactus pyramidalis var. **pumilus** W. F. R. Suringar in Vijfde Bijdrage tot de kennis der Melocacti (1897) 191.
Curaçao.

Melocactus radiatus W. F. R. Suringar in Melocacti novi (1889) 446.
Aruba.

Melocactus rectiusculus W. F. R. Suringar in Melocacti novi (1885) 187.
Aruba.

Melocactus reticulatus W. F. R. Suringar in Melocacti novi (1889) 453.
Aruba.

Melocactus reversus W. F. R. Suringar in Melocacti novi (1885) 187.
Aruba.

Melocactus roseus W. F. R. Suringar in Melocacti novi (1889) 439.
Aruba.

Melocactus rotatus W. F. R. Suringar in Vijfde Bijdrage tot de kennis der Melocacti (1897) 191.
Aruba.

Melocactus rotifer W. F. R. Suringar in Vijfde Bijdrage tot de kennis der Melocacti (1897) 188.
Curaçao.

Melocactus rotifer var. **angustior** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 14.
Curaçao.

Melocactus rotula W. F. R. Suringar in Vijfde Bijdrage tot de kennis der Melocacti (1897) 186.
Curaçao.

Melocactus rotula var. **angusticostata** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 8.
Curaçao.

Melocactus rotula var. **validispinus** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 10.
Curaçao.

Melocactus rubellus W. F. R. Suringar in Melocacti novi (1885) 184.
Aruba.

Melocactus rudis W. F. R. Suringar in Melocacti novi (1889) 442.
Aruba.

Melocactus Salmianus var. **adauctus** W. F. R. Suringar in Melocacti novi (1889) 460.
Aruba.

Melocactus Calmianus var. **aciculosus** W. F. R. Suringar in Vijfde Bijdrage tot de kennis der Melocacti (1897) 187.
Curaçao.

Melocactus Salmianus var. **spectabilis** J. V. Suringar in Contributions Melocactus (1901) 22.
Curaçao.

Melocactus (stellatus?) sordidus W. F. R. Suringar in Melocacti novi (1889) 451.
Aruba.

Melocactus spatanginus W. F. R. Suringar in Melocacti novi (1885) 193.
Bonaire.

Melocactus spatanginus forma **tenuispina** W. F. R. Suringar in Melocacti novi (1885) 194.
Curaçao.

Melocactus stellatus W. F. R. Suringar in Melocacti novi (1889) 452.
Aruba.

Melocactus stramineus W. F. R. Suringar in Melocacti novi (1885) 185.
Aruba.

Melocactus tenuissimus J. V. Suringar in Nouvelles Contributions Melocactus (1910) 6.
Curaçao.

Melocactus trachycephalus W. F. R. Suringar in Melocacti novi (1889) 455.
Aruba.

Melocactus (stramineus) trichacanthus W. F. R. Suringar in Melocacti novi (1885) 186.
Aruba.

Melocactus trigonaster J. V. Suringar in Nouvelles Contributions Melocactus (1910) 4.
Curaçao.

Melocactus trigonus W. F. R. Suringar in Melocacti novi (1889) 456.
Aruba.

Melocactus uncinatus W. F. R. Suringar in Melocacti novi (1889) 450.
Aruba.

Melocactus Zuccarini Miq. in Linnaea XI 345. (ex. Schumann).
Curaçao.

5411. **Mamillaria** Haw.

Mamillaria simplex Haw. Suppl. 71 (1819); Gris. Fl. 300.
Curaçao: Britton & Shafer 3085.
Margarita. (Johnston).
Antill., Venezuela. (Gris. Fl.).

5417. **Opuntia** Mill.

Opuntia curassavica Mill. Gard. Dict. ed. VIII n. 7. Juffrouw, Kalieber, Kaaka die poesji.

Curaçao: Blt (4900); S (5028).
Aruba: Cank (6377).
Bonaire: locality unknown.
Widely dispersed on the three Islands.
Antill. (Schumann Monogr. Cact.).

Opuntia tunoides Britton et Rose in manuscr. Juffrouw, Friekampeeuw, Sjangran, Toena, Toena spanjool.

Curaçao:
Aruba:
Bonaire:
Widely dispersed over the three Islands.
Type, Britton & Shafer 2904.

Opuntia elatior Mill. Dict. VIII. n. 4;
Tuna elatior, spinis validis nigricantibus, in Dill. Hort. Eltham. p. 395, t. 294.

Curaçao:
Bonaire:
Not widely dispersed.

5421. **Peireskia** Mill.

Peireskia bleo DC. Prodr. III (1828) 475. Goeamaatsjoe.
Cultivated. [Nova Granata, Brasilia.] (Schumann Monogr. Cact.).

216. Lythraceae.

5474. **Ammannia** Linn.

Ammannia auriculata Willd. Hort. Berol. I (1806) t. 7.
Bonaire: Rk (7153); R (7233); Bonk (7486).
In warmer countries of both hemisph. (Koehne Pflanzenr. IV. 216).

Ammannia coccinea Rottb. Plant. hort. Univ. Havn. Progr. descr. (1773) 7.
Curaçao: Britton & Shafer 3010.
America and Asia. (Koehne Planzenr. IV. 216).

Ammannia latifolia Linn. Spec. (1753) 119; Gris. Fl. 270.
Curaçao: Bat (5226).
Bonaire: Macb (7122); Plah (7296).
Warmer and tropical countries of America. (Symb.).

5494. **Lawsonia** Linn.

Lawsonia inermis Linn. Spec. (1753) 349. Reseda.
Cultivated. [Africa, Asia, Australia.] (Koehne 1903).

218. Punicaceae.

5501. **Punica** Linn.

Punica Granatum Linn. Spec. (1753) 472. Granaatappel.
Cultivated. [Mediterran. countries.] (Symb.).

220. Rhizophoraceae.

5523. **Rhizophora** Linn.

Rhizophora Mangle Linn. Spec. (1753) 443; Gris. Fl. 274. Manggel tán.
Curaçao: Suringar.
Aruba: Mansz (6555).
Bonaire: Lack (7480).
7 Finding places noted.
Margarita. (Johnston).
Amer. trop., Afr. occ. trop. (Symb.).

221. Combretaceae.

5541. **Quisqualis** Linn.

Quisqualis indica Linn. Spec. (1762) 556.
Cultivated. [Asia austro-orient., Philipp., Afr. occid.] (Symb.).

5544. **Terminalia** Linn.

Terminalia Catappa Linn. Mant. II (1771) 519. Wilde amandel.
Cultivated. [Malay. Ins.] (Symb.).

5548. **Conocarpus** Gärtn.

Conocarpus erectus Linn. Spec. (1753) 76; Gris. Fl. 277. Grijze manggel, Manggel, Manggel blanko, Witte manggel.
Curaçao: Mk (4892); Vat (5366); Cak (5411); Pk (5484). — Suringar, — Went 1325.

Aruba: Mankz (6285).
Bonaire: Grkz (7178). — Suringar.
Margarita. (Johnston).
Amer. trop., Galapagos, Afr. trop. occ. (Symb.).

5551. **Laguncularia** Gärtn.

Laguncularia racemosa Gärtn. f. Fruct. III (1805) 209, t. 217, f. 2; Gris. Fl. 276.
Curaçao: Vht (5363). — Suringar, — Britton & Shafer 2937.
Aruba: Mankz (6287).
Bonaire: R (7185).
8 Finding places noted.
Margarita. (Johnston).
Amer. trop., Afr. trop. occ. (Symb.).

222. Myrtaceae.

5559. **Psidium** Linn.

Psidium Guajava Linn. Spec. (1753) 470. Goeajaaba.
Cultivated. [Amer. trop.] (Symb.).

5578. **Eugenia** Linn.

Eugenia javanica Lam. Dict. III. 200. Kaasjoe die Surinaam.
Cultivated. [Ind. orient.].

224. Oenotheraceae.

5791. **Jussieua** Murr.

Jussieua erecta Linn. Spec (1753) 388;
Jussieua acuminata Sw. Flor. II (1800) 745; Gris. Fl. 272.
Bonaire: Zkr (7337).
Tropical countries of Africa and America. (Symb.).

228. Umbelliferae.

5893. **Hydrocotyle** Linn.

Hydrocotyle hirsuta Sw. Prodr. (1788) 54.
Curaçao: (Symb.).
Baham., Antill., Brasilia. (Symb.).

235a. Theophrastaceae.

6282. **Jacquinia** Linn.

Jacquinia barbasco Mez. in Pflanzenr. (1903) 32; *Jacquinia armillaris* Jacq. Enum. Pl. Carib. (1760) 15; Gris. Fl. 397; Boldingh I 150. Mata piskaa, Paa·loe hóekoe, Sjiengool, Steenhout.
Curaçao: Wk (4954); C (5006); Sk (5042); Hk (5075); H_2 (5121*c*); Hz (5135); Sik_3 (5257); Sik_3 (5262*a*); Fk (5271); K (5459). — Aschenberg, — Suringar, — Went 1323, — Britton & Shafer 3029.
Aruba: Fonth (6469); Serk (6483).
Bonaire: Suringar.

Spread; on Curaçao 16 spots noted, on Aruba 7, on Bonaire 9.

Antill. (Symb.).

239. Sapotaceae.

6361. **Achras** Linn.

Achras sapota Linn. Syst. X ed. II (1759) 988; *Sapota Achras* Mill. Gard. Dict. VIII ed. (1768) n. 1; Gris. Fl. 399. Mispoe.
Cultivated. [Cultiv. in trop. countries of both hemisph.] (Symb.).

6374. **Bumelia** Sw.

Bumelia obovata A. DC. Prodr. VIII (1844) 191; *Bumelia cuneata* Sw. Flor. I (1797) 496; Gris. Fl. 401; Johnston (Margarita). Paaloe die leetsji, Paaloe ploeta, Raambessji.
Curaçao: Mah (4854); Wk (4951); C (5017); Hk (5132); Hk (5310); Hk (5312); Ch_2 (5419); K (5453); K (5455). — Suringar, — Britton & Shafer 3109.
Aruba: Mand (6289); Nick (6494).

Bonaire: Montkr (7422); Okz (7235); Montkr (7425); Skr (7431); Skr (7432).

On Curaçao 28 finding places noted, on Aruba 14, on Bonaire 15.

Margarita. (Johnston).
Antill. (Symb.).

243. Oleaccae.

6440. **Jasminum** Linn.

Jasminum azoricum Linn. Spec. (1753) 7.
Cultivated. [Ins. Azor. and Madeira.] (E. u. P.).
Jasminum pubescens Willd. Sp. Pl. I (1798) 37.
Cultivated. [Ind. Orient., Birma, China.] (E. u. P.).

245. Loganiaceae.

6453. **Spigelia** Linn.

Spigelia anthelmia Linn. Spec. (1753) 149; Gris. Fl. 331. Leengga die baaka.
Curaçao: Cas (4789); H_2 (5119); Zt (5382*e*). — Aschenberg, — Suringar, — Britton & Shafer 3040.
Aruba: Beh (6428*d*). — Suringar.
Bonaire: R (7028).
Amer. trop. (Symb.).

247. Apocynaceae.

6578. **Plumiera** Linn.

Plumiera rubra Linn. Spec. (1753) 209.
Cultivated. [Amer. trop.] (Symb.).

6619. **Rauwolfia** Linn.

Rauwolfia Lamarkii DC. Prodr. VIII (1844) 337; Gris. Fl. 408.
Aruba: Savw (6516); Savw (6517).
Margarita. (Johnston).
Antill. (Symb.); Equador. (Gris. Fl.).

6632. **Thevetia** Adans.

Thevetia neriifolia Juss. ex Steud. Nom. ed. II, II (1841) 680.
Cultivated. [Amer. trop.] (Symb.).

6687. **Nerium** Linn.

Nerium Oleander Linn. Spec. (1753) 209.
Cultivated. [Mediterran. countries.] (Symb.).

248. Asclepiadaceae.

6736. **Cryptostegia** R.Br.

Cryptostegia grandiflora R. Br. in Bot. Reg. t. 435 (1819).
Cultivated. [Patria ignot.] (Symb.).

6791. **Asclepias** Linn.

Asclepias nivea Linn. Spec. (1753) 215; Gris. Fl. 419.
Asclepias curassavica Linn. Spec. (1753) 215; Gris. Fl. 419; Johnston (Margarita). K o m t s j i k o e s k o t t e r.
Curaçao: Aschenberg.
Margarita. (Johnston).
Widely dispersed in both hemisph. (Symb.).

6792. **Calotropis** R. Br.

Calotropis procera R. Br. in Ait. Hort. Kew. ed. 2 (1811) II 78; Gris. Fl. 420. K a t o e n a d i e s e e d a, Z ij k a t o e n.
Curaçao: Suringar, — Lens 835.
Aruba: Nick (6488). — Suringar.
On Curaçao 8 finding places noted, on Aruba 3, on Bonaire 1.
Margarita. (Johnston).
Indig. in Afr. sept. and Ind. orient. (Symb.).

6798. **Metastelma** R.Br.

Metastelma Boldinghii Schlecht. in Symb. Antill. VII (1912) 338.
Curaçao: Mok (4831); Sik_3 (5258). — Went 1326.
Bonaire: Fh (7249).

6934. **Omphalophthalmus** Karst.

Omphalophthalmus ruber Karst. Fl. Columb. II (1865) 119. t. 163. K a b e e z d i e m a r i e k o e, M a r i e p o m p o e n.
Curaçao: Wah (5254). — Suringar.
Aruba: (6212). — Suringar.

Bonaire: R (7098). — Suringar.

On Curaçao 4 finding places noted, on Aruba 2, on Bonaire 1, especially in the hilly country.

Nova Granata. (Karst. Fl. Columb.).

249. Convolvulaceae. *)

6968. **Cuscuta** Linn.

Cuscuta americana Linn. Spec. (1753) 124; Gris. Fl. 476. Hielo die diaabel.

Curaçao: Bh (4759); Sih (5191). — Suringar, — Went 1322, — Britton & Shafer 3065.

Bonaire: Bolko (7377); R (7381).

Amer. trop. (Symb.).

Cuscuta arvensis Beyr. ap. Hook. Flor. bor. amer. II (1840) 77.

Curaçao: Vat (5099); Hz (5136); Bat (5220); Pk (5473); Pk (5481). — Britton & Shafer 2915.

Bonaire: R (7081); PRw (7349); Bact (7476).

Baham., Martinique, Amer. cont. from U. S. to Brasilia. (Symb.).

Cuscuta partita Choisy Cusc. 188 t. 5. f. 3.

Curaçao: Britton & Shafer 3096.

Bonaire: R (7379).

Brasilia, Venezuela. (Engelmann Gen. Cuscutae).

6973. **Evolvulus** Linn.

Evolvulus alsinoides Linn. Spec. (1762) 392; Gris. Fl. 475. Jeerba plaata, Jeerba sjieko.

Curaçao: Bh (4766); Sk (5038); Pk (5471). — Britton & Shafer 3037.

Aruba: Andh. (6397); Mirh (6456).

In tropical and subtrop. countries of both hemisph. (Hall. Bull. Bois. VII).

Evolvulus Columbianus Meissn. in Mart. Fl. Bras. III (1869) 347.

Curaçao: C (4997); C (5007). — Suringar.

Columbia, Venezuela, Trinidad, St Kitts. (Hallier m. s.).

Evolvulus glaber Spreng. Syst. I (1825) 862;

Evolvulus mucronatus Sw. ex Wikstr. in Vet. Acad. Handl.

*) The greater part of the Convolvulaceae has been eloborated by Dr. H. Hallier.

Stockholm (1827) 61; Gris. Fl. 475; Johnston (Margarita). Tsjananaa.

Curaçao: Sk (5037); Hz (5138); Ba (5165); Bat (5216). — Britton & Shafer 3079.

Aruba: Mirh (6453*b*); Fontz (6474); Savk (6541). — Suringar.

Bonaire: R (7103); Mat (7301). — Suringar.

Margarita. (Johnston).

Amer. trop. (Symb.).

Evolvulus nummularius Linn. Spec. (1762) 391; Gris. Fl. 475.

Curaçao: Britton & Shafer 3047.

Trop. Amer. and Afr. (Symb.).

6986. **Porana** Burm.

Porana paniculata Roxb. Hort. Beng. (1814) 13.

Cultivated. [India orient. Malay.] (Ind. Kew.).

6991. **Jacquemontia** Choisy.

Jacquemontia cumanensis O. K. Rev. Gen. I (1891) 441.

Curaçao: Vd (4741); Be (5399). — Lens 823.

Bonaire: Fz (7241); Bolkg (7376).

Nicaragua, Venezuela. (Hallier ms.).

Jacquemontia evolvuloides Meissn.

α. **longepedunculata** Meissn. in Mart. Fl. Bras III (1889) 307. t. 112.

Curaçao: Bat (5218); Krh C (5610). — Aschenberg, — Suringar, — Britton & Shafer 3119.

β. **brevipedunculata** Meissn. l. c. 307.

Bonaire: R (7100).

Brit.Guyana, Brasilia, Bolivia, Paraquay, Argentinia. (Hallier ms.).

Jacquemontia nodiflora Don. Gen. Syst. IV (1838) 283; *Convolvulus nodiflorus* Desr. in Lam. Enc. III (1789) 557; Gris. Fl. 475.

Curaçao: Sc (4983); A (5160); Dh (5631). — Britton & Shafer 3064.

Aruba: Serk (6483).

Bonaire: R (7109).

Antill., Amer. cont. trop. from Mexico to Ecuador. (Symb.).

Jacquemontia pentantha G. Don. Gen. Syst. IV (1838) 283; *Convolvulus pentanthus* Jacq. Coll. IV (1790) 210; Gris. Fl. 474; *Jacquemontia violacea* Choisy in Mem. Soc. Phys. Genèv. vol. 8. (1838) 61. (Johnston).

Curaçao: Aschenberg.

Margarita. (Johnston).

Ant., Amer. trop. cont. from Mexico to Peru. (Symb.).

6997. **Merremia** Dennst.

Merremia aegyptia Urb. in Symb. Antill. IV (1910) 505; *Merremia pentaphylla* Hallier f. in Engl. Jahrb. XVI (1893) 552; *Ipomoea pentaphylla* Jacq. Col. II (1788) 297; Gris. Fl. 467; Boldingh I 162.

Curaçao: St (5054*c*); M 17; M 22. — Britton & Shafer 3003.

Antil., Amer. cont. trop., Afr. trop., India orient., Ins. Sandw. (Symb.).

7003. **Ipomoea** Linn.

Ipomoea acuminata R. et Sch. Syst. IV (1819) 228; *Ipomoea jamaicensis var. glabrata* Gris. Flor. Br. W. I. (1861) 474.

Curaçao: (Symb.).

Bermud., Florida, Baham., Antill., Mexico, Amer. centr. (Symb.).

Ipomoea batatas Poir. Encycl. VI (1804) 14.

Cultivated. [Amer. centr.] (E. u. P.).

Ipomoea calantha Gris. Cat. (1866) 202.

Curaçao: (Symb.).

Cuba, Columbia. (Symb.).

Ipomoea carnea Jacq. Enum. (1760) 13; Gris. Fl. 469.

Curaçao: Aschenberg.

Aruba: (Symb.).

Margarita: (Symb.).

Jamaica, St. Vincent, from Nicaragua to Nova Granata and Venezuela. (Symb.).

Ipomoea commutata R. et Sch. Syst. IV (1819) 228.

Curaçao: Kit (5497). — Suringar.

Aruba: Ok_2 (6242); Ok_2 (6245); Savh (6535). — Suringar.

Bonaire: Rt (7159).

Amer. sept., St. Thomas. (Hallier, Wiss. Aust. Hamb. 1898).

Ipomoea heptaphylla Voigt Hort. Suburb. Calc. (1845) 360;
Ipomoea pulchella Gris. Flor. (1861) 470;
Ipomoea pulchella Roth. Nov. pl. sp. (1821) 115.

Curaçao: Blt (4913); Bat (5212); Wo (5434*a*); M 11; M 12. — Suringar, — Britton & Shafer 2999.

Tropical countries of both hemisph. (Symb.).

Ipomoea incarnata Choisy in DC. Prodr. IX (1845) 360.

Curaçao: CaC (4806); Ma (4880); S (5029); Bat (5208); Wo (5439). — Aschenberg, — Suringar, — Britton & Shafer 2968, 3008.

Aruba: (5758).

Bonaire: R (7108); Bolko (7371).

St. Martha, Galapag. Ins., Abington, Chatham, Indefastigable, Ecuador, Brasilia.

Ipomoea muricata Jacq. Hort. Schönbr. II (1798) 40. Kaboeja igoeaana.

Curaçao: St (5054); St (5054*b*). — Aschenberg.

Bonaire: R (7096); R (7097); Montk (7399).

In warmer countries of both hemisph. (Hallier Bull. herb. Bois. V).

Ipomoea nil Roth. Cat. I (1797) 36; Gris. Fl. 473. Trompet.

Curaçao: Bat (5211); Kit (5495); M 22. — Aschenberg, — Britton & Shafer 3061.

Aruba: (5741).

Bonaire: Rk (7094).

Warmer parts of America, Afr. trop., Asia austro-or., Ins. Sandw.

Ipomoea pes caprae Roth. Nov. Pl. Sp. (1821) 109; Gris. Fl. 470.

Curaçao: van Breemen.

Margarita. (Johnston).

Warmer and tropical countries of both hemisph. (Symb.).

Ipomoea triloba Linn. Spec. (1753) 161; Gris. Fl. 470.

Curaçao: M 25; M 26. — Lens 804.

Florida, Baham., Antill., warmer parts of Amer. centr. and sept., Galapagos. (Symb.).

Ipomoea tuba G. Don. Gen. Syst. IV (1838) 271; Gris. Fl. 467;
Ipomoea glaberrima Boj. in Hook. Journ. I (1834) 357.

Curaçao: Rif (4640). — Britton & Shafer.

Aruba: (5739).

Key Ins., Baham., Antill., from Mexico to Guiana, Afr. trop., Asia austro-orient., Ins. pacif. (Symb.).

7005. **Quamoclit** Moench.

Quamoclit coccinea Moench. Meth. (1794) 154.
Cultivated. [In tropical countries of both hemisph.] (Symb.).

Quamoclit pinnata Boj. Hort. Maur. (1837) 224.
Cultivated. [In tropical countries of both hemisph.] (Symb.).

251. Hydrophyllaceae.

7037*. **Nama** Linn.

cf. 7037. **Hydrolea** Linn.

Nama jamaicense Linn. Syst. X ed. II (1759) 950; Gris. Fl. 477; *Hydrolea jamaicensis* Raeusch. Nom. ed. III (1797) 76; Boldingh I 163.

Curaçao: Nas W (4687); M 5. — Aschenberg, — Suringar, — Britton & Schafer 3033.

Bermud., Florida, Key West, Baham., Antill., from Texas to Venezuela. (Symb.).

252. Borraginaceae.

7038. **Cordia** Linn.

Cordia alba R. et Sch. Syst. (1819) 466; Gris. Fl. 478. Karawaara.

Curaçao: Vw (4700); Blw (4753). — Suringar, — Went 1332, — Lens 810, — Britton & Shafer 2982.

Aruba: Ok_2 (6229); Nick (6487). — Suringar.

Bonaire: Rk (7065); Montkr (7417). — Suringar.

On Curaçao 37 finding places noted, on Aruba 14, on Bonaire 15.

Margarita (Johnston).

Baham., Antill., from Mexico to Columbia and Venezuela. (Symb.).

Cordia cylindrostachya R. et Schult. Syst. IV (1819) 459; Gris. Fl. 480. Karisjoeri.

Curaçao: Rif (4643); B (4776); Mh (4885); Pih (5324*b*). — Aschenberg, — Suringar, — Britton & Shafer 2962.

Aruba: Fonth (6466). — Suringar.

Bonaire: R (7092); Kra (7447). — Suringar.

On Curaçao 47 finding places noted, on Aruba 8, on Bonaire 15.

Margarita. (Johnston).

Antill., Amer. cont. trop. (Symb.).

Cordia globosa H. B. K. Nov. Gen. III (1818) 76; Gris. Fl. 481. Oreegano.

Curaçao: Vw (4706); Blw (4749); Bh (4759*d*). — Aschenberg, — Suringar, — Britton & Shafer 2973.

Aruba: Ok_2 (6225).

Bonaire: Rk (7054); Fk (7339*d*); Montkr (7389).

On Curaçao 31 finding places noted, on Aruba 1, on Bonaire 4.

Margarita. (Johnston).

Key Ins., Baham., Antill., Amer. cont. trop. (Symb.).

Cordia Sebestena Linn. Spec. (1753) 190; Gris. Fl. 478. Karawaara spanjool, Manhage.

Cultivated. [Key Ins., Baham., Antill., Amer. centr. to Guiana.] (Symb.).

7042. **Beureria** Jacq.

Beureria succulenta Jacq. Enum. (1760) 14; Gris. Fl. 481. Goeaana, Watakeeli, Watakeeri.

Curaçao: Vw (4712); Vd (4734); W_2 (5063); K (5454); K (5457). — Suringar, — Went 1333, — Britton & Shafer 2965.

Aruba: Mankz (6296); Ajh (6348). — Suringar.

Bonaire: Rk (7073). — Suringar.

On Curaçao 47 finding places noted, on Aruba 21, on Bonaire 12.

Antill. (Symb.); Baham. (Herb. Leiden).

7051. **Tournefortia** Linn.

Tournefortia gnaphalodes R. Br. Prod. (1810) 496; Gris. Fl. 483. Kokorobaana, Tabaako die piskadoo.

Curaçao: Jh (5429). — Suringar.

Aruba: Mankz (6284); Serz (6510). — Suringar.

Bonaire: R (7181).

On lime near the sea; on Curaçao 4 finding places noted, on Aruba 6, on Bonaire 7.

Margarita. (Johnston).

Bermud., Florida austr., Key Ins., Baham., Antill., Mexico, Amer. centr. (Symb.).

Tournefortia volubilis Linn. Spec. (1753) 140; Gris. Fl. 484. Klaas moelaato, Raboe die kabaai.

Curaçao: Vw (4708); Blw (4746); Sc (4977); A (5143); Pek (5280). — Suringar, — Britton & Shafer 2972.

Bonaire: Rk (7058); Rk (7059); Montkr (7400); Montkr (7408). — Suringar.

On Curaçao 14 finding places noted, on Aruba 1, on Bonaire 9.

Margarita. (Johnston).

Key Ins., Baham., Antill., Yucatan, Amer. austr. (Symb.).

7052. **Heliotropium** Linn.

Heliotropium campechianum H. B. K. Nov. Gen. III (1818) 68; *Heliotropium filiforme* Gris. Flor. (1861) 486.

Curaçao: V (4731); Cas (4798); M (4813); Wa_3 (5101*b*); Vat (5364). — Suringar, — Went 1346, — Britton & Shafer 3044.

Aruba: Ser k (6483*a*); Sav w (6518); Sav k (6542*c*). — Suringar.

On Curaçao 13 finding places noted, on Aruba 5, on Bonaire 1.

Margarita. (Johnston).

Antill., Campeche, Guatemala, Columbia, Galapagos. (Symb.).

Heliotropium curassavicum Linn. Spec. (1753) 130; Gris. Fl. 486. Kokolodee sjimarón.

Curaçao: Rud (4603). — Suringar, — Britton & Shafer.

Aruba: Mankz (6293*a*); Bak k (6342). — Suringar.

Bonaire: Mat (7299). — Suringar.

Near the sea on Curaçao 6 finding places noted, on Aruba 4, on Bonaire 2.

Margarita. (Johnston).

Bermud., Key Ins., Baham., Antill., Amer. cont., Europ. austr., Africa, Australia, Ins. Pacif. (Symb.).

Heliotropium humile R. Br. Prodr. I (1810) 497; *Heliotropium fruticosum* Linn. Syst. X ed. II (1759) 913; Gris. Fl. 486. Salie.

Curaçao: Bh (4770); Hk (5131); KrhC (5601). — Suringar, — Lens 817, — Britton & Shafer 2961, 3039.

Aruba: Fontk (6477); Savk (6540). — Suringar.

Bonaire: Rk (7074); P Rw (7351). — Suringar.

On Curaçao 40 finding places noted, on Aruba 3, on Bonaire 5.

Antill., Amer. cont. trop. (Symb.).

Heliotropium indicum Linn. Spec. (1753) 130; Gris. Fl. 485. Kokolodee.

Curaçao: Sh (4968). — Aschenberg, — Suringar.
Bonaire: (7327).
Margarita. (Johnston).
Tropical countries of both hemisph. (Symb.).

Heliotropium parviflorum Linn. Mant. II (1771) 201; Gris. Fl. 485.
Curaçao: Vw (4698); Bh (4759*a*); Pk (5476). — Suringar, — Lens 701, 808.
Aruba: (6213). — Suringar.
Bonaire: R (7011). — Suringar.
Margarita. (Johnston).
Amer. trop. (Symb.).

253. Verbenaceae.

7142. Tamonea Aubl.

Tamonea curassavica Pers. Syn. II. 139;
Tamonea spinosa Sw. Prod. Veg. Ind. Occ. 94;
Tamonea verbenacea Sw. Fl. Ind. Occ. II 1089; Gris. Fl. 493.
Curaçao: Gris. Fl.
Antigua. (Gris. Fl.).

7144. Lantana Linn.

Lantana camara Linn. Spec. (1753) 627; Gris. Fl. 495. Floor die sangger.
Curaçao: Mah (4859); Hk (5314); Kd (5336); Pk (5472). — Suringar, — Britton & Shafer 2964.
Aruba: Ok_2 (6223). -- Suringar.
Bonaire: Rk (7037); Soebh (7264). — Suringar.

On Curaçao 33 finding places noted, on Aruba 9, on Bonaire 10.

Margarita. (Johnston).
In tropical America. (Symb.).

Lantana canescens H. B. K. Nov. Gen. et Spec. II. (1817) 209.
Curaçao: Hk (5131); Pik (5324*a*); Pk (5470). — Aschenberg, — Britton & Shafer 3151.
Bonaire: Rh (7033).
Venezuela. (H. B. K. Nov. Gen. et Spec.).

Lantana involucrata Linn. Cent. Pl. II (1756) 22; Gris. Fl. 496.
Curaçao: Riw (4686). — Went 1111, — Britton & Shafer 2944.

Aruba: Bakk (6335).
Bonaire: Suringar.

On Curaçao 16 finding places noted, on Aruba 10, on Bonaire 18.

Bermud., Florida austr., Key Ins., Baham., Antill., Amer. centr., Galapayos. (Symb.).

7145. **Lippia** Linn.

Lippia reptans H. B. K. Nov. Gen. et Spec. II (1817) 263; Gris. Fl. 495. Kamille sjimarón, Maisji raboe.

Curaçao: St (5054*r*). — Suringar, — Went 1347, 1339, — Lens 843, — Britton & Shafer 2990.
Aruba: Siv (6307). — Suringar.
Bonaire: R (7137).
Baham., Antill., Amer. cont. trop. (Symb.).

7148. **Bouchea** Cham.

Bouchea Ehrenbergii Cham. in Linnaea VII (1832) 253; Gris. Fl. 493. Jeerba staasia, Sjonleena.

Curaçao: Mo (4816*b*); Bah (5167); Mi (5308); Ent (5434*f*). — Aschenberg, — Suringar.
Margarita. (Johnston).
Baham., Antill., from Mexico to Venezuela. (Symb.).

7151. **Stachytarpheta** Vahl.

Stachytarpheta jamaicensis Vahl. Enum. I (1804) 206; Gris. Fl. 494;

Stachytarpheta indica Vahl. Enum. I (1804) 206.
Curaçao: Vat (5349*a*).
Bonaire: Fh (7247). — Suringar.
Margarita. (Johnston).
Bermud., Florida austr., Key Ins., Baham., Antill., Amer. centr. to Guiana, Afr. and Asia trop. (Symb.).

Stachytarpheta sanguinea Mart. et Schau in DC. Prodr. XI. (1847) 564.

Aruba: Ajw (6352); Ajw (6353).
Brasilia. (Ind. Kew.).

7153. **Priva** Adans.

Priva lappulacea Pers. Syn. II (1807) 139;

Priva echinata Juss. in Ann. Mus. Par. VII (1806) 69; Gris. Fl. 493; Boldingh. I 170.

Curaçao: Hatot (5340*a*). — Suringar.
Margarita. (Johnston).
Bermud., Florid. austr., Baham., Antill., Amer. cont. trop. (Symb.).

7162. **Duranta** Linn.

Duranta erecta Linn. Spec. (1753) 637. Adonis.
Cultivated. [Amer. trop.] (Symb.).

7186. **Vitex** Linn.

Vitex umbrosa Sw. Prod. Veg. Ind. Occ. 93; Gris. Fl. 502. Foema.
Curaçao: Wk (4945); C (5015); Beh (5514); Beh (5533). — Suringar.
Jamaica, Cuba. (Gris Fl.).

7205. **Avicennia** Linn.

Avicennia nitida Jacq. Enum. Pl. Carib. (1760) 25; Gris. Fl. 502. Manggel blanko.
Curaçao: Suringar.
Bonaire: Lagz (7462), Zoutz (7500).
On Curaçao 4 finding places noted, on Bonaire 3; not observed on Aruba.
Margarita. (Johnston).
Amer. trop., Afr. trop. (Symb.).

254. Labiatae.

7264. **Leonotis** R. Br.

Leonotis nepetifolia R. Br. in Ait. Hort. Kew. ed. II, III (1811) 409; Gris. Fl 492. Sabadieja.
Curaçao: Suringar.
Bonaire: Suringar.
Margarita. (Johnston).
Warmer countries of both hemisph. (Symb.).

7342. **Hyptis** Jacq.

Hyptis pectinata Poit in Ann. Mus. Par. VII (1806) 474. t. 30; Gris. Fl. 489.
Curaçao: W (4930); Kit (5501).
Margarita. (Johnston).
Amer. trop., Afr. trop., Asia austro-or., Ins. Marian. (Symb.).

Hyptis suaveolens Poit. in Ann. Mus. Par. VII (1806) 472. t. 29. f. 2; Gris. Fl. 489. Sanggoera.

Curaçao: Hk (5074); Wa_3 (5106); Aw (5162); Dh (5630). — Suringar, — Went 1350, — Lens 833, — Britton & Shafer 2995.

Aruba: Sav (6405); Ajw (6453). — Suringar.

Bonaire: R (7129); Sergh (7458).

Baham., Antill., Amer. cont. trop., Asia austro-or. (Symb.).

7343. **Marsypianthes** Mart.

Marsypianthes chamaedrys O. Ktze. Rev. II (1891) 524; *Marsypianthes hyptoides* Mart. in Benth. Lab. (1832) 64; Gris. Fl. 487.

Aruba: (6207); L (6264*a*); Beh (6428*i*); Savh (6531).

Antill., Amer. cont. trop. (Symb.).

7366. **Ocimum** Linn.

Ocimum gratissimum Linn. Spec. (1753) 597.

Cultivated. [India orient.] (Ind. Kew.).

Ocimum sanctum Linn. Mant. I (1767) 85.

Cultivated. [Asia trop. and Nova Guinea.] (Symb.).

256. Solanaceae.

7401. **Physalis** Linn.

Physalis angulata Linn. Spec. (1753) 183; Gris. Fl. 436.

Curaçao: Bah (5170); Bat (5238); Kit (5503). — Aschenberg, — Went 1335, — Britton & Shafer 3076.

Aruba: Suph (6392); Beh (6428).

Warmer countries of both hemisph. (Symb.).

Physalis pubescens Linn. Spec. (1753) 183; Gris. Fl. 435.

Curaçao: (5736). — Aschenberg.

Aruba: Mankz (6280); Ajh (6351); Beh (6428).

Bonaire: Karh (7304).

Tropical America. (Symb.).

Physalis turbinata Medik. in Act. Acad. Theod. Palat. IV (1780) 188. t. 5. f. 2.

Curaçao: Britton & Shafer. 3072, 3107.

Bonaire: R (7083); Joh (7303).

Antill., Nova Granata. (Symb.).

7404. **Capsicum** Linn.

Capsicum frutescens Linn. Spec. (1753) 189; Gris. Fl. 436.
Cultivated. [Tropical countries of both hemisph.] (Symb.).

7407. **Solanum** Linn.

Solanum argillicolum Dunal. in A. DC. Prodr. XIII. 1 (1852) 236. Bataata die soembi.

Curaçao: Vw (4719); V (4721); (5052); A (5151). — Suringar, — Read, — Von Rohr, — Britton & Shafer 2979.

Aruba: Ok_2 (6239); Nic k (6499). — Suringar.

Bonaire: Rh (7077).

On Curaçao found in 19 places, on Aruba in 9, on Bonaire in 3.

St. Barthélemy, Brasilia. (Symb.).

Solanum lycopersicum Linn. Spec. (1753) 185. Tomati.
Cultivated. [Amer. cont. trop.] (Symb.).

Solanum Melongena Linn. Spec. (1753) 186. Berrehein, Boulanger.
Cultivated. [Asia trop.] (Symb.).

Solanum nigrum var. **americanum** O. E. Schulz in Urb. Symb. VI (1909) 160;

Solanum nigrum var. nodiflorum Linn. Spec. (1753) 186; Bolangh I 177;

Solanum nodiflorum Dunal Hist. Sol. (1813) 151; Gris. Fl. 437. Maloieda.

Curaçao: St (5054*a*); Kit (5502). — Suringar.

Aruba: Savw (6521).

Bonaire: R (7135).

Margarita. (Johnston).

Baham., Antill., from Mexico to Guiana. (Symb.).

Solanum odoriferum Vell. Fl. Flum. 85.
Cultivated. [Brasilia.] (Ind. Kew.).

Solanum torvum Sw. Prod. Veg. Ind. Occ. (1788) 47; Gris. Fl. 441.

Curaçao: (Symb.).

Key Ins., Baham., Antill., Amer. centr. and austro-sept., Guinea, Asia austro-orient. (Symb.).

Solanum tuberosum Linn. Spec. (1753) 185.
Cultivated. [Andes americ.] (Symb.).

7415. **Datura** Linn.

Datura Metel Linn. Spec. (1753) 179; Gris. Fl. 434. Belladonna, Jeerba stinki.

Curaçao: Suringar.

Aruba: Ok_2 (6220); Paardw (6560). — Aschenberg, — Suringar.

Margarita. (Johnston).

Amer. trop., Afr. trop., Eur. austr., India or. (Symb.).

7434. **Nicotiana** Linn.

Nicotiana Tabacum Linn. Spec. (1753) 180.

Cultivated. [Amer. austr.] (Symb.).

7436. **Petunia** Juss.

Petunia violacea Lindl. Bot. Reg. t. 1626.

Cultivated. [Argentinia.] (Ind. Kew.).

257. Scrophulariaceae.

7496. **Russelia** Jacq.

Russelia juncea Zuccar in Flora XV (1832) II Beibl. 99.

Cultivated. [Mexico.] (Symb.).

7534. **Stemodia** Linn.

Stemodia durantifolia Sw. Obs. (1791) 240; Gris. Fl. 429.

Curaçao: Suringar, — Britton & Shafer 3016.

Americ. tropic. (Symb.).

Stemodia maritima Linn. Syst. X ed. II (1759) 1118; Gris. Fl. 429. Torra.

Curaçao: Nasw (4683); Mt (4863); Bat (5233). — Aschenberg, — Suringar, — Britton & Shafer 3031.

Baham., Antill., Amer. austr. trop. (Symb.).

7574. **Capraria** Linn.

Capraria biflora Linn. Spec. (1753) 628; Gris. Fl. 427. Tantsji.

Curaçao: Rud (4605). — Suringar, — Went 1106, 1355, — Lens 702, — Britton & Shafer 2932.

Aruba: Mankz (6293); Siw (6315). — Suringar.

Bonaire: Rk (7032). — Suringar.

On Curaçao noted in 20 places, on Aruba in 11, on Bonaire in 6.

Margarita. (Johnston).

Bermud., Florida austr., Key Ins., Baham., Antill., Amer. cont. trop. (Symb.).

7576. **Scoparia** Linn.

Scoparia annua Cham. et Schl. in Linnaea II. (1827) 603.

Curaçao: W (5581). — Aschenberg, — Britton & Shafer 3022.

Aruba: Ok_2 (6226); Mankz (6279); Ajw (6343*g*); Savw (6519*a*); Mansz (6557). — Suringar.

Bonaire: R (7134).

Brasilia. (D C. Prodr. X).

258. Bignoniaceae.

7733. **Tecoma** Juss.

Tecoma Chrysantha DC. in Prodr. IX (1845) 221. Kiebrahaatsja.

Curaçao: Mah (4861); Sc (4979); Aw (5142); Hk (5309); Beh (5511); Beh (5516).

Aruba: L (6265); Mirh (6458).

Bonaire: Macb (7118); Joh (7204). — Suringar.

On Curaçao 10 finding places noted, all in the Western part, on Aruba 4, on Bonaire 10.

Venezuela. (DC. Prodr. IX).

7740. **Stenolobium** D. Don.

Stenolobium stans Seem. Journ. Bot. I (1863) 88. Kelki heel.

Cultivated. [Warmer countries of America.] (Symb.).

7759. **Crescentia** Linn.

Crescentia Cujete Linn. Spec. (1753) 626; Gris. Fl. 445. Kallebas rondo.

Curaçao: Suringar.

Aruba: C (6414); C (6416).

Bonaire: Johw (7196). — Suringar.

On Curaçao noticed in 27 places, on Aruba in 5, on Bonaire in 11.

Margarita. (Johnston).

Bermud., Key Ins., Antill., Amer. cont. trop. (Symb.).

259. Pedaliaceae.

7777. **Sesamum** Linn.

Sesamum orientale Linn. Spec. (1753) 634; Gris. Fl. 458. Sjosjolie.

Cultivated. [Asia austro-orient.] (Symb.).

266. Acanthaceae.

7908. **Elytraria** Michx.

Elytraria squamosa Lindau in Engl. u. Prantl, Nat. Pflanzenfam. Nachtr. (1897) 304;

Tubiflora squamosa O Ktze. Rev. 500; Lindau in Engl. u. Prantl. Nat. Pflanzenfam. IV. 3*b*. 289;

Elytraria tridentata Vahl Enum. (1804) I. 107; Gris. Fl. 451.

Curaçao: Vw (4697); Mk (4886); Vat (5093); Wo (5438). — Suringar, — Went 1317, — Lens 809, — Britton & Shafer 2978.

Aruba: L (6266); Mirh (6453*f*).

Bonaire: R (7016).

Noticed on Curaçao in 21 places, on Aruba in 9, on Bonaire in 11.

Tropic. Americ. and Afr. occid. trop. (Symb.).

7965. **Ruellia** Linn.

Ruellia paniculata Linn. Spec. (1753) 635; Gris. Fl. 451.

Curaçao: Suringar.

Cuba, Jamaica, from Columbia and Venezuela to Mexico. (Symb.).

Ruellia tuberosa Linn. Spec. (1753) 635; Gris. Fl. 452. Pistool, Skopèt.

Curaçao: B (4778); Mok (4820*a*); St (5054*g*); A (5153); Bat (5225); Sit (5297); Hatot (5344); Ent (5434*e*). — Suringar, — Went 1337, — Lens 805, — Britton & Shafer.

Bonaire: R (7113).

Margarita. (Johnston).

Antill., from Guiana, Venezuela, Peru and Columbia to Mexico. (Symb.).

267. Myoporaceae.

8111. Bontia Linn.

Bontia daphnoides Linn. Spec. (1753) 638; Gris. Fl. 503. Olieba, Olijfi, Parwa.

Curaçao: Nask (4691). — Suringar, — Britton & Shafer 3052.

Aruba: Paardw (6556). — Suringar.

Bonaire: Bonz (7496). — Suringar.

On Curaçao 20 finding places noted, on Aruba 5, on Bonaire 2.

Baham., Antill., Guiana. (Symb.).

269. Plantaginaceae

8116. Plantago Linn.

Plantago major Linn. Spec. (1753) 112; Gris. Fl. 389.

Cultivated. [In almost all parts of both hemisp.] (Symb.).

270. Rubiaceae.

8283. Randia Linn.

Randia aculeata Linn. Spec. (1753) 1192; Gris. Fl. 318. Leele, Raboe die kabaai, Wakoera.

Curaçao: Blw (4752); Mh (4870). — Suringar, — Britton & Shafer 3043.

Bonaire: Rh (7034); R (7165). — Suringar.

On Curaçao 48 finding places noted, on Bonaire 25; not observed on Aruba.

Margarita. (Johnston).

Bermud., Florida austr., Key Ins., Baham., Antill. (Symb.).

Venezuela. (Johnston).

8363. Antirrhoea Comm.

Antirrhoea acutata DC. Symb. I (1899) 439; *Stenostomum viscosum* Gris. Fl. (1861) 334. Koetsjaara, Plaaka sjikietoe.

Curaçao: Sik_2 (5202); Sik_2 (5243). — Suringar, — Britton & Shafer 3081.

Aruba: Fonth (6467); Fontt (6475). — Suringar.

Bonaire: Rk (7061). — Suringar.

On calcareous soil; on Curaçao found in 13 places, on Aruba in 6, on Bonaire in 4.

Anguilla, Guadeloupe, Désirade. (Symb.).

8370. **Machaonia** H. B.

Machaonia Ottonis Urb. in Symb. Antill. V (1908) 511. Paaloe die heeroe.

Curaçao: (4024*b*); Mh (4879); Wo (4932); Sc (4982); Kk (5406); Kk (5410). — Suringar, — Britton & Shafer 3144.

Bonaire: Rk (7076); Soebh (7282). — Suringar.

Found on Curaçao in 23 places, on Bonaire in 11 in the hilly part. Not observed on Aruba.

Venezuela. (Symb.).

8371. **Erithalis** Linn.

Erithalis fruticosa Linn. Syst. X ed. II (1759) 930; Gris. Fl. 336. Loembra blanko.

Curaçao: Rif (4646); Vd (4733); Mk (4890); Bat (5241). — Suringar, — Britton & Shafer 2940.

Aruba: Mand (6288); Mand (6291); Camk (6370). — Suringar.

Bonaire: Soebh (7270); Fk (7341); Lagz (7469).

On Curaçao 21 finding places noted, on Aruba 3, on Bonaire 3.

Margarita. (Johnston).

Florida, Key Ins., Baham., Antill., Amer. centr. (Symb.).

8384. **Ixora** Linn.

Ixora coccinea Linn. Spec. (1753) 110.

Cultivated. [Asia austro-orient.] (Symb.).

8391. **Strumpfia** Jacq.

Strumpfia maritima Jacq. Enum. Pl. Carib. (1760) 28; Gris. Fl. 336. Bai no boolbee.

Curaçao: Sk (5043); Kk (5403). — Suringar, — Britton & Shafer 3030.

Aruba: Locality unknown. — Suringar.

Bonaire: Montkr (7426); Skr (7428); Skr (7433).

Key Ins., Baham., Antill., Yucatan. (Symb.).

8463. **Morinda** Linn.

Morinda Royoc Linn. Spec. (1753) 176; Gris. Fl. 347; *Morinda umbellata* Linn. Spec. 176. Bataata heel, Loembra maatsjoe, Paaloe zapateero, Pam die diaabel.

Curaçao: Bh (4761). — Suringar, — Went 1334, — Lens 827, — Britton & Shafer 2941.

Aruba: Fontk (6482); Serk (6505).

Bonaire: Plak (7276); Bolko (7365). — Suringar.

Especially on lime; on Curaçao 21 finding places noted, on Aruba 2, on Bonaire 2.

Jamaica, Cuba, Haiti. (Gris. Fl.).

8468. **Ernodea** Swartz.

Ernodea litoralis Sw. Prodr. (1788) 29; Gris. Fl. 347.

Bonaire: Montkr (7393); Skr (7429); Skr (7434).

Florida austr., Key Ins., Baham., Antill., Honduras, Yucatan. (Symb.).

8471. **Diodia** Linn.

Diodia rigida Cham. et Schlecht. in Linnaea III (1828) 341; Gris. Fl. 348.

Curaçao: Cas Ch (4795); H (5068); Bah (5171); Sik_2 (5262 *b*); Pih (5328); Krh (5599*b*); KrhC (5610*a*); Dh (5629). — Suringar, — Britton & Shafer 3154.

Aruba: Mirh (6452*c*); Savk (6546). — Suringar.

Bonaire: PRw (7347).

Margarita. (Johnston).

Antill., Amer. cont. trop. (Symb.).

8473. **Borreria** G. F. W. Mey.

Borreria laevis Gris. Kar. in Goett. Abh. VII (1857) 231.

Curaçao: Blt (4901); Hatot (5343); Vat (5354); Zt (5387). — Aschenberg, — Britton & Shafer 2997, 3005.

Bonaire: Brw (7314).

Amer. tropic. (Symb.).

Borreria ocymoides DC. Prodr. IV (1830) 544; *Borreria parviflora* G. F. W. Mey Prim. Ess. (1818) 83. t. 1. f. 1; Gris. Fl. 349.

Curaçao: M9, M15.

Aruba: (6201) Bek (6420).
Bonaire: R (7004).
Amer. trop., Java. (Symb.).

8475. **Spermacoce** Gärtn.

Spermacoce tenuior Linn. Spec. (1753) 102; Gris. Fl. 349.
Curaçao: H_2 (5120); Bah (5173); Bat (5221*a*); Ent (5434); Krk (5591*c*). — Suringar, — Britton & Shafer 2984, 3071.
Aruba: Siw (6311*a*); Siw (6319); Bek (6422); Mirh (6453*h*); Nick (6503). — Suringar.
Bonaire: R (7005); R (7136); Bolko (7359).
Margarita. (Johnston).
Bermud., Baham., Antill., from Caroliniana and Louisiana to Brasilia. (Symb.).

8479. **Mitracarpus** Zucc.

Mitracarpus hirtus D C. Prodr. IV (1830) 572 ex Schumann Flor. Bras. VI. 6. p. 84;
Mitracarpus villosus Cham. et Schlecht. in Linnaea III (1828) 363; Boldingh I 194; Gris. Fl. 350.
Curaçao: Beh (5534*a*); Wh (5572); M 16. — Suringar, — Britton & Shafer 3026.
Aruba: L (6264); Ajw (6343*d*); Mirh (6445*e*); Nick (6485); Savw (6519*c*); Savh (6528). — Suringar.
Antill., Cuba and Mexico to Equador and Venezuela. (Gris. Fl.).

275. Cucurbitaceae.

8580. **Ceratosanthes** Adans.

Ceratosanthes corniculata Cogn. in D C. Monogr. III (1881) 724;
Ceratosanthes tuberosa Spreng. Syst. Veg. 3. (1774) 18; Gris. Fl. 289; Johnston (Margarita). Bataata djoekoe, Fantasiea, Leengga die tsoetsjoebi.
Curaçao: Vw (4707); Si (5196). — Suringar, — Lens 838, — Britton & Shafer 3116.
Aruba: Ok_2 (6224).
Margarita. (Johnston).
Martinica, Grenada, Trinidad, Venezuela. (Cogn. 1881).

8591. **Momordica** Linn.

Momordica Charantia Linn. Spec. (1753) 1009; Gris. Fl. 287. Mammootika.

Curaçao: (5084).
Margarita. (Johnston).
In all tropical and subtropical countries. (Symb.).

8598. **Citrullus** Forsk.

Citrullus vulgaris Schrad. in Eckl. et Zeyh. Enum. II (1836) 279. Patieja.
Cultivated. [Afr. trop. and austr.] (Symb.).

8599. **Cucumis** Linn.

Cucumis Anguria Linn. Spec. (1753) 1011; Gris. Fl. 288. Wild komkommer.
Curaçao: Suringar, — Britton & Shafer 3142.
Aruba: Locality unknown, — Suringar.
Margarita. (Johnston).
Key Ins., Baham., Antill., Amer. cont. calidior. (Symb.).

Cucumis Melo Linn. Spec. (1753) 1011.
Cultivated. [Afr. and Asia trop.] (Symb.).

8622. **Cucurbita** Linn.

Cucurbita maxima Duchesne in Lam. Encycl. II (1786) 151. Pompoen.
Cultivated. [Asia merid.] (Cogn. 1881).

280. Compositae.

8818. **Mikania** Willd.

Mikania scandens Wild. III. 3 (1804) 1743;
Micania orinocensis H. B. K. Nov. Gen. IV (1820) 134; Gris. Fl. 364.
Curaçao: Aschenberg.
Cultivated. [America.] (Symb.).

8873. **Egletes** Cass.

Egletes prostrata O. K. in Rev. Gen. plant. I (1891) 334;
Egletes domingensis Cass. in Dict. Sc. Nat. XIV. 256; Gris. Fl. 380.
Curaçao: Pit (4840). — Aschenberg, — von Rohr, — Britton & Shafer 3011, 3129.
Aruba: (6202). — Suringar.
Jamaica, Antigua, Haiti to French Islands, Trinidad, Venezuela equat., Brasilia. (Gris. Fl.).

8915. **Gundlachia** A. Gray.

Gundlachia corymbosa Britton in manuscr.

Curaçao: Wo (4937); Pek (5286); Pez (5288); Wh (5579). — Suringar, — Britton & Shafer 2936.

Aruba: Serk (6506).

Portorico. (Britton).

9101. **Lagascea** Cav.

Lagascea mollis Cav. in Anal. Cienc. Nat. VI (1803) 333. t. 44.

Curaçao: Bat (5214); Hatot (5340). — Aschenberg, — Suringar, — Britton & Shafer 3122.

Antill., Amer. cont. trop. (from. Ind. or.) (Symb.).

9129. **Melampodium** Linn.

Melampodium bonairense Boldingh. (n. sp.) herbaceum; ramis linea pilosa instructis; foliis petiolatis, deltoideis ovatis, basis cuneatis, crenato-serratis, supra scabris, subtus hispidulis; palea akenium obtegente apice obsolete spinuloso-dentata.

Herba ramis dichotomis, sulcatis, linea pubescente notatis. Folia opposita, pedunculata, deltoidea ovata, basi cuneata, crenato-serrata, membranacea, supra calloso punctata et scabra, subtus hispidula, 2—5 cm. longa, 1—2 cm. lata.

Capitula corymbosa, pedunculata, 0,3 cm. longa. Pedunculi 1—3 cm. longi, puberuli. Involucrum pentaphyllum, foliolis inaequalibus, acutis, integerrimis, nervosis, hispidulis. Receptaculum planum, paleaceum; paleis oblongis, obtusis, nervosis, glabris, margine ciliatis.

Flosculi masculi non vidi. Flosculi feminei: Corolla flava, tubo 0,05 cm. longo, ligula 0,15 cm. longa. Stigma 0,1—0,15 cm. longa. Akenia palea arcte inclusa, 0,25 cm. longa, trigona, apice irregulariter tuberculata.

Plate IX.

Curaçao: Hills near Domingito (5638); Malpais (M. 14) (type).

Bonaire: Rincon (7003, 7401).

9138. **Parthenium** Linn.

Parthenium Hysterophorus Linn. Spec. (1753) 988; Gris. Fl. 369. Bassoora die lieber.

Curaçao: No (5434); Ent (5440). — Aschenberg, — Suringar, — Lens 816, — Versluys 1422.

Aruba: Locality unknown. — Suringar.

Bonaire: Suringar.

Margarita. (Johnston).

Bermud., Florida, Key Ins., Baham., Antill., Amer. cont. trop. (Symb.).

9146. **Ambrosia** Linn.

Ambrosia paniculata L. Cl. Rich. in Michx. Flor. Bor. Americ. II (1803) 183. (Symb. Antill. VII. p. 84).

Cultivated. [Antill., Mexico, Guatemala, Nicaragua, Columbia, Ecuador, Peruvia, Venezuela.] (Symb.).

9166. **Eclipta** Linn.

Eclipta alba Hassk. Pl. Jav. Rar. (1848) 528; Gris. Fl. 370.

Curaçao: Bat (5221); M6; Kl. St. Martha. — Suringar, — Britton & Shafer 2985.

Aruba: Fontt (6475*c*). — Suringar.

Bonaire: R (7138). — Suringar.

Margarita. (Johnston).

In warmer countries of both hemisph. (Symb.).

9174. **Isocarpha** R. Br.

Isocarpha oppositifolia R. Br. Trans. Linn. Soc. vol. 12 (1816) 110; Gris. Fl. 376. Magdalena.

Curaçao: C (5013); H_2 (5110*a*); A (5149); A (5159); Pk (6378); Jak (5641). — Suringar, — Lens 841, — Britton & Shafer 2945.

Aruba: Suringar.

Bonaire: R (7007); Fk (7342). — Suringar.

On Curacao 18 finding places noted, on Aruba 1, on Bonaire 18.

Margarita. (Johnston).

Baham., Jamaica, Trinidad. (Johnston).

9192. **Wedelia** Jacq.

Wedelia Jacquini L. Cl. Rich. in Pers. Syn. II (1807) 490; *Wedelia buphthalmoides* Gris. Flor. (1861) 372; Boldingh I 202; Johnston (Margarita) 269.

Curaçao: Vd (4735); Wh (4950); Be (5559).

Margarita. (Johnston).

Antill., Panama, Venezuela, Guiana. (Symb.).

9207. **Spilanthes** Jacq.

Spilanthes urens Jacq. Enum. Pl. Carib. (1760) 28; Gris. Fl. 376.

Curaçao: Pit (4839). — Suringar.

St. Vincent, Haiti, New-Granada, Peru, Brasilia. (Gris. Flor.).

9218. **Verbesina** Linn.

Verbesina alata Linn. Spec. (1753) 901; Gris Fl. 374.

Curaçao: (Symb.).

Margarita. (Johnston).

Antill. (Symb.).

9224. **Synedrella** Gärtn.

Synedrella nodiflora Gärtn. Fruct. II (1791) 456. t. 171; Gris. Fl. 377.

Curaçao: H_2 (5112); Hatot (5346). — Aschenberg, — Suringar.

Aruba: (6208); Mirh (6445); Mirh (6447*b*); Savh (6537). — Suringar.

Bonaire: R (7015).

Margarita. (Johnston).

Florida, Baham., Antill., Amer. cont. trop. (Symb.).

9237. **Bidens** Linn.

Bidens cynapiifolius H. B. K. Nov. Gen. et Spec. IV (1820) 235; *Bidens bipinnatus* Linn. Spec. (1753) 832; Gris. Fl. 373. Pieterselie.

Curaçao: Hk (5083); KrhC (5608). — Aschenberg, — Suringar, — Britton & Shafer 3117.

Aruba: Suph (6392*a*); Mirh (6445*c*); Mirh (6447*a*). – Suringar.

Bonaire: R (7014).

Warmer countries of both hemisph. (Symb.).

9316. **Porophyllum** Adans.

Porophyllum macrocephalum P. DC. Prodr. V (1836) 648. Mampoerietoe.

Curaçao: Cas (4768); Zt (5382*f*); Kit (5493). — Suringar, — Lens 831, — Britton & Shafer.

Bonaire: R (7008); Sergh (7459).

Arizona, Mexico, Amer. centr. (Symb.).

9319. **Pectis** Linn.

Pectis brachycephala Urb. Symb. Antill. V (1907) 268.

Aruba: Nick (6501). — Suringar.

Pectis febrifuga van Hall. in Ann. Hort. et Bot. ou Flore Jard. des Pays-Bas vol. IV (1861) 33 with tabl. Theebiek.

Curaçao: V (4729); Vat (5377); Zt (5382). — Aschenberg, — Suringar, — Went 1345, — Lens 824, — Versluys 1418, — Britton & Shafer 3050.

Aruba: Ok_2 (6249); Beh (6428*e*). — Suringar.

Bonaire: R (7144); Plh (7296). — Suringar.

Jamaica, St. Thomas, Water Island, St. Croix, Columbia. (Symb.); Saba (Boldingh I).

Pectis linifolia Linn. Syst. X ed. II (1759) 1221;

Pectis punctata Jacq. Enum. (1760) 28; Gris. Fl. 377. Theebiek maatsjoe.

Curaçao: Bah (5168); Vat (5378); Zt (5382*a*); Caz (5413). — Aschenberg, — Suringar, — Lens 825, — Versluys 1419, — Britton & Shafer 2910.

Aruba: Mirh (6445*f*); Mirh (6447); Savk (6542*b*).

Bonaire: R (7019); PRw (7354).

Margarita. (Symb.).

Baham., Antill., Venezuela, Nova Granata, Galapagos, Yucatan, California infer., Arizona. (Symb.).

Pectis prostrata Cav. Icon. IV (1797) p. 12, tab. 324; Gris. Fl. 378. Theebiek maatsjoe.

Curaçao: Sk (5044*a*); Wa_3 (5104); Vat (5376); Krk (5591*d*). — Britton & Shafer 2974.

Bonaire: Rh (7079); Rh (7080); R (7143); PRw (7353).

Florida, Amer. sept., Cuba, Arizona and New Mexico, Mexico, Yucatan, Guatemala, Venezuela. (Symb.).

9540. **Trixis** Gmel.

Trixis frutescens P. Br. ex Spreng. Syst. vol. 3 (1826) 501;

Trixis radiale Lag. Amen. nat. vol. 1 (1811) 36.

Aruba: Camk (6378). — Suringar.

Margarita. (Johnston).

Trop. Amer. (Johnston).

9596. **Lactuca** Linn.

Lactuca intybacea Jacq. Icon. Pl. Rar. I (1781) t. 162;

Brachyramphus intybaceus P. DC. Prodr. VII (1838) 177; Gris. Fl. 384. Salade andijvie.

Curaçao: Sc (4981); Sik (5186). — Suringar, — Britton & Shafer.

Aruba: Ok_2 (6238); Paardw (6559).

Bonaire: R (7378).

Margarita. (Johnston).

Baham., Antill., Amer. centr. (Symb.).

SECOND PART

HISTORICAL

HISTORICAL

CHAPTER I

HISTORICAL SKETCH.

The islands Aruba and Bonaire have rarely been visited by botanists; from Curaçao several collections exist. In the Dutch botanical literature I did not see other publications except those mentioned in this Chapter.

I. Urban, Symbolae Antillanae, mentions that *J. Ph. B. von Rohr* (about 1737—1793) collected in Curaçao and that also *F. Bredemeyer* (1758—1839), *J. Read* and *H. F. A. Baron von Eggers* (1893) visited Curaçao.

For the collections of these persons I refer to Ch. II.

Later botanists who visited the colony Curaçao are:

Prof. Dr. W. F. R. Suringar 1884—1885.

Prof. Dr. F. A. F. C. Went 1901.

Miss A. Lens 1907.

Dr. I. Boldingh 1909—1910.

Prof. Dr. N. L. Britton and *Dr. J. A. Shafer* 1913,

while *Aschenberg* and *W. Versluys* made collections as inhabitants of Curaçao and *Dr. P. J. van Breemen* has been especially meritorious by accurately studying the marine phanerogamous plants. Their work as well as the collections of the other persons mentioned are treated in Ch. II.

About the results of these investigations and collections the following may suffice.

An account of *Suringar's* journey, published in the Kon. Ned. Aardr. Gen. (Royal Dutch Geogr. Soc.) Series II, Part II and III (1885—1886) contains an introduction; the publication has not been continued beyond the first 50 pages and only a small part of the flora has been described.

Published in the Verslagen en Verhandelingen der Kon. Academie van Wetenschappen te Amsterdam (Proc. Royal Acad. Amsterdam)

are articles on the Melocacti of the Dutch West Indian Islands. Of these *W. F. R. Suringar* and *J. V. Suringar* published the following series:

W. F. R. Suringar: Melocacti novi ex insulis archipelagi indici-occidentalis neerlandicis Curaçao, Aruba et Bonaire vel Bydrage tot de Kennis der Melocacti, in:

Verslagen en Mededeelingen der Koninklijke Academie van Wetenschappen Afd. Natuurkunde, Amsterdam.

3de Reeks Deel II (1885) p. 183—195.

Deel VI (1889) p. 408—461 c. tab.

Deel IX (1892) p. 406—412 c. tab. geogr.

Verhandelingen der Koninklijke Akademie van Wetenschappen te Amsterdam. II Sectie. Deel V (1896) Nr. 3. p. 1—46. c. tab. 2.

Verslagen der Natuurkundige afdeeling der Koninklijke Akademie van Wetenschappen. Amsterdam. Deel VI (1897) p. 178—192 c. tab.

Illustrations du genre Melocactus Livr. I.

J. Valckenier Suringar:

Contributions à l'étude des espèces du genre Melocactus des Indes Néerlandaises occidentales: Verhandelingen der Koninklijke Akademie van Wetenschappen. Amsterdam. Deel VIII (1901) p. 1—40.

Het Melocactusonderzoek, in Nederlandsch Kruidkundig Archief. Derde Serie. 2de deel. 1903. p. 1047—1058 c. 1 tab.

Nouvelles contributions à l'étude des espèces du genre Melocactus des Indes Néerlandaises Occidentales. Verhandelingen der Koninklijke Akademie van Wetenschappen. Amsterdam. Tweede Sectie. Deel XVI. Nr. 3. 1910.

Illustrations du genre Melocactus. Livr. II.

Part of the plants collected by *Suringar* are mentioned by *Urban* in his Symbolæ Antillanæ.

The other collections hat not been used by authors yet; they are treated in this flora together with Suringar's collection. In the older literature on the Dutch W. I. Islands something is found on the flora there. With real pleasure I read and re-read after my journey *Teenstra's* work [1]), in which some 90 plants are described in a manner which for a non-botanist is very sufficient. From most of the descriptions the plants may be recognised, especially since their wellknown indigenous names are given. Like in *Teenstra's* work much attention is paid to the medi-

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[1]) M. D. Teenstra: De Nederlandsche West Indische eilanden in derzelver tegenwoordige toestand. Amsterdam 1836—1837.

cinal use of many plants in *Simon's* book [1]) which also gives an extensive list of vernacular and Latin plant names, composed by *Dr. N. Anslyn*, military physician. That in such a list many inaccuracies in the determinations occur is obvious.

I also became æquainted with a publication by *Hurtado* [2]), who in an appendix gives a survey of the Curaçao flora. This appendix contains a very large number of mistakes.

It seemed preferable not to quote the plants from the three publications mentioned and to elaborate in this flora only the data from recent collections, found in the Utrecht herbary.

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1) G. J. Simons. Beschrijving van het eiland Curaçao. Oosterwolde 1868.

2) C. Hurtado. Compendlo di botanica elemental. Curazao. Benthencourt e Hyos. 1891.

CHAPTER II

NOTES ON THE COLLECTIONS.

Collection W. F. R. Suringar.

Dr. J. Valckenier Suringar has been so kind to put at my disposal the diary of his late father Prof. *W. F. R. Suringar* about his journey to the Dutch W. I. Islands in 1885.

From these data it has been possible to point out the expeditions of this botanist in the three islands.

Suringar visited Curaçao in 1885 from Jan. 10—28, Febr. 11—17, Febr. 27—March 11, March 28—29, and made the following expeditions:

Jan.	10	Ft. Nassau, Altena, Pieter Maai.
„	12	Rif, plain near 't Hospitaal, Priesterberg.
„	13	Hato, Gasparito.
„	14	Beekenburg, Spaansche water, Kabrietenberg, Zuurzak.
„	17	Veeris.
„	19	Westpuntbaai, Savonet.
„	20	Savonetbaai.
„	21	Christoffelberg.
„	22	Savonet.
„	23	Tafelberg.
„	24	Tafelberg and Seroe trista.
„	25	St. Jan.
„	28	St. Jan, Schottegat.
Febr.	11	Zuikertuintje.
„	12	Brievengat, Ronde Klip.
„	13	Fuik, Fuikbaai.
„	14	Punt Canon, St. Barbara.
„	17	Klip near Willemstad, Schottegat, Grootkwartier.
March.	1	Berg between Schottegat and Hospitaal.
„	4	Michielsbaai, Veeris.
„	7	Pieter Maai, Rooi Kanarie.
„	28	Kleine Berg, Hermanus, Pt. Marie, Willebrordus, Plantage, Rif.

Suringar visited Aruba from Jan. 30—Febr. 9 and made the following expeditions:

Jan. 30 Oranjestad.
„ 31 Rif near Oranjestad.
Febr. 1 Kristalberg.
„ 2 Santa Cruz, Hooiberg, Seroe Canashitoe, Warawara berg.
„ 3 Fontein, Seroe Colorado.
„ 4 Seroe Colorado, St. Nicolaas, Rooi Frances, St. Cruz.
„ 5 St. Cruz.
„ 6 Jamanota.
„ 7 Noord.
„ 9 Noord, Tankie.

Suringar visited Bonaire from Febr. 19--25 and made the following expeditions:

Febr. 19 Fontein.
„ 20 Rincon, Goto Baai, Slagbaai, Brandaris.
„ 21 Slagbaai.
„ 22 Boca Onima, Klein Bonaire (Molengraaff).
„ 23 Playa.
„ 24 Bolivia.
„ 25 Witte pan.
„ 26 Playa, Klein Curaçao.

Suringar's collections are preserved in the State Herbary et Leyden, the plants bear no numbers, no more than those from the other islands. Since the sites are only indicated by a single word and consequently nothing can be concluded about the frequency of occurrence, I did not attempt in the Systematical part of this Flora to cite all these plants, as I did in the first part of the Flora of the W. I. Islands. In this latter case Suringar's notes sufficiently indicated the place, these islands being so much smaller and easier to survey. It seemed sufficient in the second part of the Flora to mention whether the plants had been collected by Suringar in the islands or not.

The circumstance that I could not get the whole of Suringar's plants at my disposal during some time, rendered an extensive account of his expeditions impossible and, in my opinion, superfluous, since nearly all parts visited by him were also studied by myself, as will appear when his expeditions are compared with mine. The labels of a great part of the Aruba plants show that many of them were collected by Pastor v. Koolwijk, so that Koolwijk is not a site, as the Symb. Antill. wrongly mentions in a few places.

A large portion of the Suringar collection has been determined by Prof. I. Urban and many plants from it are mentioned in his Symbolae Antillanae.

Collection Aschenberg.

In the herbary of the Botanical Laboratory of het University at Utrecht is a fairly large collection of plants, gathered in Curaçao by *Aschenberg*. I have not succeeded is obtaining nearer information about it. It will be seen from the Systematical part of this Flora that a great many of the species, found by Suringar and myself, have also been collected by Aschenberg.

Collection F. A. F. C. Went.

A number of plants has been collected by *Prof. Dr. F. A. F. C. Went* during his stay in Curaçao in 1901. In the Systematical list they are indicated by the name Went.

Collection Miss A. Lens.

In 1907 *Miss Lens* collected a number of plants in Curaçao; this small collection is conspicuous by its fine specimens, since Miss Lens could take much time in drying them. They are chiefly ruderal plants and mentioned in the list by the name Lens.

Collection W. Versluys.

In 1907 *Mr. W. Versluys*, Government Agriculturalist made a collection of plants, indicated in the list as Versluys. It contains especially grasses.

Collection I. Boldingh.

As in the introduction to this Flora an account is given of my investigation of the Flora of the D. W. I. Islands, it may suffice here to mention the places where I stayed and from where I undertook expeditions. They are given in the same order as the expeditions themselves; for nearer information and for the meaning of the abbreviations in the Systematical Part I refer to the explanatory notes of the maps.

Curaçao: Oct. 16—Dec. 20, Jan. 18—28.

Oct. 22	Rif.
„ 24	Ft. Nassau.
„ 25—27	Casa Chiquito, Veerisberg, Blein, Soea, Mahoema.

Oct.	28—30	Malpais, Blaauw, Klein Piscadera.
Nov.	1—2	Westpunt.
„	2—4	Savonet, Christoffel.
„	5—10	Wacao, Hieronymusberg, Antonieberg.
„	11—13	Siberie, St. Pedro, Fontein, Ascention.
„	16	Plantersrust.
„	18	Hato.
„	19	Ronde Klip.
„	20	Valentijn, Schottegat.
„	21—22	Kl. Davelaar, Zuurrak, Brakkeput ariba, Beekenburg, Choloma.
„	23	Choloma, Groot St. Joris, Koraal Tabak.
„	24	v. Engelen, Waterloo, Noordkant.
„	30—Dec. 1	Kleine Berg, Patrick, St. Kruis, Knip.
Dec.	2—4	Knip.
„	5—6	St. Kruis.
„	7—8	Kl. St. Martha, Dokterstuin.
„	8—9	St. Jan.
„	9	St. Jan, San Sebastian, Siberie, Hermanus.
„	14	Priesterberg.
Jan.	24	Caracasbaai.
„	25	Malpais.

Aruba: Dec. 21—Jan. 18.

Dec.	22	Oranjestad.
„	23	Jaboribori.
„	24	Jamanota.
„	25	Mansheba.
„	27—28	Noord, Alta Vista, Calabasha, Seroe Plat, Kristalberg, Boeshiribana, St. Cruz.
„	29	St. Cruz—Ajo.
„	30	Hooiberg, Canashito.
Jan.	1	Seroe Soempinja, Andikurie, Daimarie, Sabanilla abau, St. Cruz.
„	4	Belashi.
„	5	Belashi, Mir la mar, Fontein, Seroe blanco, Belashi.
„	6	Savaneta.
„	11	Seroe Colorado.
„	12	St. Nicolaas, Savaneta.
„	13	Savaneta, Jamanota.
„	14	Savaneta, Paardenbaai, Seroe blanco, Seroe Kadoesji, Fontein, St. Cruz.

Bonaire: Jan. 28—Febr. 20.

Jan. 30 Rincon.
„ 31 Makoetakau.
Febr. 1 Playa grandi.
„ 2 Joewa.
„ 4 Rincon, Onima, Fontein.
„ 5 Rincon, Tola.
„ 7 Karakau.
„ 9 Brandaris, Slagbaai.
„ 10 Bolivia.
„ 11 Rooi Samboe, Seroe montagna.
„ 12 Rooi Samboe.
„ 14 Rincon, Kralendijk.
„ 15 Seroe grandi, Lagoen.
„ 16 Tanki maraka, Seroe montagna.
„ 17 Bacuna, Lac, Klein Bonaire.
„ 18 Zuidzoutpannen.
„ 19 Vuurtoren N. O. Bonaire.

2200 different plant numbers were collected altogether and elaborate notes were taken about the occurrence of conspicuous species, owing to which the descriptions of the vegetation and other notes in the Systematical list give a practically complete survey of the flora of the three islands.

Collection N. L. Britton and J. A. Shafer.

Prof. Dr. N. L. Britton and Dr. J. A. Shafer visited Curaçao in March 1913 and collected some 250 plants. Through the kindness of Dr. Britton the present writer has been able to study nearly all these plants personally, so that this recent collection could be incorporated. The sites mentioned show that the following spots were visited by the above mentioned gentlemen:
Willemstad and environs, Rif, Piscaderabaai, Mount Pleasant, St. Martha, St. Kruis, Ascencion, Wacao, Patrick, St. Peter, St. Jorisbaai, Caracasbaai.
Of nearly all plants doublets are found in the herbary of the Botanical Laboratory at Utrecht.

It in possible that plants from Curaçao are also present in a few foreign herbaries. It appears, namely, from *I. Urban*, Symbolae

Antillanae, III 1902, that the following persons visited Curaçao and collected plants in the various islands:

J. Ph. B. von Rohr (about 1737—1793) visited Curaçao after 1786; he sent plants from the Antilles to *Prof. Vahl* at Copenhagen. It is possible that also in the Banks Herbary in the British Museum, in the Martius Herbary at Brussels and in the Wildenow Herbary at Berlin a number of plants from Curaçao are found.

F. Bredemeyer (1758—1839) visited Curaçao about 1787; his collections are in the K. K. Hofmuseum at Vienna and in the herbary of the Botanical Museum at Berlin.

J. Read also collected in Curaçao; his collections are in the Academy of Nat. Science at Philadelphia; West-Indian plants also in the Krug und Urban Herbary at Berlin.

H. F. A. Baron von Eggers visited Curaçao in 1893; it is not known to the present author whether he also collected plants there. It did not seem advisable to spend time on a search for these plants, since in all probability this would not result in any new information.

From N. J. Jacquin, Selectarum stirpium Americanarum historia (1763), appears that at that time some sixteen plants from Curaçao were already known, while also in Linn. Spec. (1753) a number of data about Curaçao plants are spread.

THIRD PART

PHYTOGEOGRAPHICAL

Section A. Orological, Geological and Meteorological

PHYTOGEOGRAPHICAL

A. Orological, Geological and Meteorological

CHAPTER I

GEOLOGICAL AND OROLOGICAL NOTES.

Introduction.

When preparing my journey to the three Leeward Islands I could only avail myself of the Geological and Orological data from K. Martin, Bericht über eine Reise nach Niederländisch West Indien, Leiden 1887.

At the time of my visit the Government was carrying out triangulations on the three islands and also preparing a topographical map of Curaçao.

Besides a general sketch-map of the roads on Curaçao, given me by Mr. Zelle, Head of the Public Works Department there, and a sketch-map of a part of Aruba, given me by Mr. R. J. Beaujon, I had no means of orientation in the three islands.

The lack of maps made itself still seriously felt in 1910 (i. e. 23 years after the publication of Martin's book); hence my topographical determinations are mostly based on local information.

During the preparation of this flora the Topographical map of Curaçao, on a scale 1/200.000 has been finished; this excellent map has still been helpful. Through the kindness of Prof. Grutterink I obtained a map of Aruba after the measurements of captain Lens.

In order to get an impression of the size of the different islands and of their mutual situation I used the map by H. M. van Straate [1]).

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[1]) West Indie, Curaçao, Bonaire en Aruba 1 : 300.000 samengesteld uit verschillende bronnen door den Luitenant ter Zee 2e klasse H. M. van Straate, 's Gravenhage. Ministerie van Marine, afd. Hydrographie. Januari 1899.

About the three small maps at the end of this Flora need only be said that the finding-places are given as exactly as possible; it seemed only necessary to indicate the border of the calcareous territories. The different abbreviations are explained in the extensive list of the sites.

While for more detailed information I refer to the work by K. Martin: Bericht über eine Reise nach Niederländisch West Indien 1887 and 1888, from which the greater part of what follows has been derived, a short account many here suffice.

Curaçao.

Of the terminal points of Curaçao Westpunt lies at 69° 11′ W. Long. and 12° 23′ N. Lat. and Punt Canon at 68° 49′ W. Long. and 12° 3′ N. Lat.; the greatest length of the island is 58 kilometres, its surface ± 450 square kilometres.

The long-drawn island is a hilly country, the hills consisting of diabase or being of cretaceous origin, the whole being surrounded by a layer of a coral-limestone formation. On the narrower part of the island the nothern and southern coral-limestone masses join and reach there the considerable height of 90 M.

The inland hills are in East Curaçao lower than in the West and give a general impression of a low undulating hilly country; the tops are not much higher there than 60 M., as a rule; the high top nearer the North side (Ronde klip) is the only inland hill which is covered with a coral mass. It is 130 M. high.

The calcareous territory of East Curaçao reaches a height of 60 M. in some places of the North coast, on the South coast it is much lower and only in the Tafelberg (St. Barbara) reaches a height of 200 M. This Mount Barbara with its gentle slope towards the sea and abrupt vertical termination towards the interior is the type of the many chalk ridges at the South side of Curaçao.

From Seroe Seinpost a large plain extends eastwards and also round the Schottegat we find a fairly large plain, forming a low hilly country to the East and extending to the West as far as Mont Plaisant. The chalk ridge, extending along the North coast from Schottegat to the neighbourhood of Mont Plaisant, reaches 70 metres in some places. At the South coast the chalk ridge is more interrupted in these same parts and isolated mountains like Veerisberg and Seroepretoe are found as chalk rests. (± 140 M.). In the middle of the island a high chalk ridge extends from

Mont Plaisant to beyond the estate Siberie and reaches its highest point in Seroe Kloof and Seroe Dakoe.
From here to St. Kruisbaai and Playa Grandi a hilly country extends, which only in a new places (Dokterstuin) reaches 130 M.
Near Anthonieberg (160 M.) a hilly country of greater height begins, forming the centre of the region North of St. Kruisbaai and Anthonieberg; we find there the complexes Tafelberg, 230 M., the top of which consists of chalk, and Christoffelberg, with ramifications extending to Westpuntbaai and St. Kruisbaai.
Anthonieberg, Tafelberg and Christoffelberg are, excepting a few coast mountains, the only heights in West Curaçao which may be properly called mountains; they are the only ones which stand more or less alone. Christoffelberg is 372 M. high and has slopes that cannot be ascended; a road, consisting of sharp prominent rocks, winds from Savonet to the top. All other heights on West Curaçao, on the other hand, are only separated by slightly inclined and gently undulating grounds. The coast mountains, consisting of chalk ridges which surround the whole island, descend on the North coast everywhere in terraces, whereas on the South coast more gently sloping plains are chiefly found. Valleys, perpendicular to the coast, often cut the chalk ridges into isolated mountains. On the South coast of West Curaçao, e. g. near Knip, the chalk ridge is not so high. The perpendicular inland wall is not seen there and the calcareous mass is covered with fragments of the rocks, forming the mountain complex.
The hills of East Curaçao are mostly of a brown red colour and where vegetation is scarce the weathered stone is seen at the surface in small fragments.
The same may be observed about the Eastern middle part. West Curaçao is generally more grown over and less stone is found there at the surface.
Only in all plantations and in their immediate vicinity a more fertile soil is found; the plantations („hofjes”) are mostly situated near the large inland waters.

Aruba.

The West point of the island lies at ± 70° 4′ W. Long. and 12° 37′ N. Lat.; the East point at ± 69° 51′ W. Long. and 12° 24′ N. Lat. The greatest length of the island is 32 kilometres, its surface ± 170 square kilometres. We man represent it as a fairly large plain of quartz-diorite, rising slowly towards the

middle and highest in the North and which in the North East even develops hills. At the centre of this quartz island a diabase triangle rises, formiug a complex of hills which is especially conspicuous in the North.

The quartz-diorite part eastward of the line Belashi — Cashuntie is still partly covered with quaternary riff-chalk, although not nearly to such an extent as is indicated by Martin in his map. There are fairly high hills of quartz-diorite (Paloe Marga 78 M., Seroe Preto 61 M.) between Savaneta and Jamanota and this rock also rises to the surface in many places between Savaneta and Fontein. Part of the South coast of West Aruba is occupied by a large broad seam of riff-chalk, which in some places (Boeroekoe 21 M.) reminds one of the limestone hills on the South coast of Curaçao. The Canashito is a more inwardly situated limestone ridge. From the plain of West Aruba rises isolated the conical Hooiberg, 164 M. Also the Seroe Plat, 94 M., is an isolated mountain and is surmounted by a caleareous table-land.

The diabase hilly complex, extending over a territory, bordered by lines from Matavidiri to Belashi, from there to Boca Prins and then along the North coast to Matavidiri, has a number of high tops, among them Ariekok 175 M. and Jananota 188 M. From these tops the country slowly descends to the South and West and the whole landscape is dominated by cup-shaped hills, separated by gently sloping valleys; in some places we find perpendicular walls. On the North coast we meet in a few places the same limestone terraces which exist on the West coast of Curaçao.

Bonaire.

The West point of the island lies at ± 68° 12′ W. Long. and 12° 14′ N. Lat., the most Southern point at ± 68° 24′ W. Long. and 12° 13′ N. Lat. The greatest length of the island is 36 kilometres, its surface about 240 square kilometres. It consists of a quaternary limestone formation, pierced in two places by mountainous complexes of cretaceous origin, diabase and glimmer porphyrite.

A limestone mountain-range of semi-circular shape separates the Rincon plain and the part to the West of this latter from the other non-calcareous part, which extends over a much larger surface than Martin's map shows.

The remaining part of the island East of this limestone complex

consists entirely of limestone, with various table-lands and partly covered with fragments of the other rocks, forming the foundation of the island.
Also the North and West margin of the Rincon plain and the mountainous complex of Slagbaai is surrounded by a narrow coral-limestone mass, which is particularly broad South of Rincon and descends in terraces to the sea; in the West this mountain ridge is repeatedly divided into isolated mountains by steep clefts. The high chalk-terrace Langeberg determines the shape of the island; the next terrace extends from Langeberg in all directions to about 2 kilometres from the sea, except in the South, where the third terrace appears a little South of Lac, following a W. E. line. The remaining part of the island consists, like the circumference of Klein Bonaire, of a lower chalk formation. The mountain complex in West Bonaire has its highest top in the Brandaris, 240 **M.** From this mountain and the Karakao, 158 M., situated a little more to the N. E., two mountainranges proceed in a S. E. direction, consisting of round cup-shaped hills with a few apices and ending in the Joewa and Makakoe.
Besides the large valley of Rincon, bordered to the West by the Brandaris complex, to the South by the high chalk ridge and to the North by the lower chalk ridge we find in East Bonaire a large plain, extending from Karakao to the coast.

General notes.

On account of the occurrence of eruptive rocks in the islands Curaçao, Aruba and Bonaire Sievers[1]) is of opinion that these islands must be considered to form one complex with Goajira, which in its turn would cohere with the Sierra Neveda de Santa Martha and extend over the first mentioned islands as far as Los Rocques. When discussing the vegetation we shall see that a few plants occurring in Santa Martha are found in the three islands, forming the subject of this Flora. It should be noted that Aruba is separated from the other islands by a sea-depth of 2000 M. and falls quite within the coast line of Venezuela where the depth is 200 M. Also the isle of Margarita lies inside the coast line of 200 M. depth; contrary to the group Aruba, Curaçao, Bonaire, it consists of archaic rocks and corresponds entirely to the continental land of Arya and Paria.

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1) W. Sievers: Karten zur physikalischen Geographie von Venezula in Dr. A. Petermanns Mitteilungen aus Justus Perthes' Geogr. Anst. 42. Band. 1896. VI. p. 125.

CHAPTER II

METEOROLOGICAL NOTES.

About the Dutch Leeward Islands not much more is known than that a strong N. E. monsoon blows there and that the annual rainfall is usually very small.

The influence of the winds is noticed in the outward appearance of the landscape; the tops of the trees are always stretched in a N. E. — S. W. direction, unless they stand in protected places. This causes these often very poorly looking trees to have a peculair appearance; the wind seems to be so strong that at the exposed side they have hardly any leaves.

The temperature of the islands varies from 24 to 29° C.

The annual amount of the rainfall remains far behind that of the three Dutch Windward Islands and very dry years have been observed. The following table gives the rainfall for Curaçao, Aruba and Bonaire.

Rainfall in mm. from January—December of the West Indian Islands, Curaçao, Aruba, Bonaire. [1]

Average.	1899.	1909.				
		Curaçao.	Curaçao.	Aruba.	Bonaire.	Bonaire.
Curaçao.	Curaçao.	Hoffie abau.	Fort Amsterdam		Rincon.	Kralendijk
58	60	193	114	131	74	89
27	22	93	93	33	64	56
21	28	8	10	2	6	5
14	1	30	40	19	16	10
3	2	2	4		3	3
18	9	13	21	12	53	30
29	18	41	55	45	58	47
41	46	16	57	19	9	3
33	4	48	11	52	16	19
46	14	141	153	63	15	43
125	66	498	325	358	213	233
81	89	113	100	25	144	108
526	359	1196	983	759	671	646

This table shows that the year 1909 was exceptionally favourable for studying the flora, since, owing to the abundant rains, a very large number of plants were found flowering.

1) After: Went, Rapport omtrent den toestand van Land- en Tuinbouw op de Nederlandsche Antillen 1902 and Meteorologische Waarnemingen in Suriname en Curaçao in het jaar 1909.

THIRD PART

Section B. Distribution of the Wild Plants enumerated in the First Part

B. Distribution of the Wild Plants enumerated in the First Part

CHAPTER I

DISTRIBUTION OF ALL THE WILD PLANTS ENUMERATED IN THE FIRST PART.

	Both hemisph.	Amer. trop.	Islands and Am. Centr.	Islands and Am. Merid.	Islands.	Indig.	Total.
Filices	1	2	. . .	. . .	. . .	. . .	3
Typhaceae	. . .	1	. . .	. . .	. . .	. . .	1
Potamogetonaceae	1	. . .	. . .	. . .	1	. . .	2
Najadaceae	. . .	. . .	1	1	. . .	. . .	1
Alismataceae	. . .	. . .	1	. . .	. . .	. . .	1
Hydrocharitaceae	. . .	. . .	. . .	1	1	. . .	2
Gramineae	13	6	. . .	6	5	4	35
Cyperaceae	12	3	1	3	4	1	23
Lemnaceae	1	1	. . .	. . .	. . .	. . .	2
Bromeliaceae	. . .	2	1	1	. . .	. . .	4
Commelinaceae	. . .	1	1	1	. . .	. . .	2
Amaryllidaceae	. . .	. . .	. . .	. . .	. . .	3	3
Orchidaceae	. . .	. . .	1	1	. . .	. . .	2
Ulmaceae	. . .	1	. . .	. . .	. . .	. . .	1
Moraceae	. . .	1	. . .	. . .	. . .	1	2
Urticaceae	. . .	. . .	1	. . .	. . .	. . .	1
Loranthaceae	. . .	. . .	1	. . .	. . .	. . .	1
Olacaceae	. . .	. . .	1	1	. . .	. . .	1
Polygonaceae	. . .	1	. . .	1	1	. . .	3
Chenopodiaceae	2	1	. . .	1	. . .	. . .	4
Amarantaceae	4	2	. . .	1	2	. . .	9
Nyctaginaceae	. . .	4	1	1	. . .	1	6
Batidaceae	1	. . .	. . .	. . .	. . .	. . .	1
Phytolaccaceae	. . .	1	. . .	. . .	. . .	. . .	1
Aizoaceae	2	1	. . .	. . .	. . .	. . .	3
Portulacaceae	1	. . .	1	2	1	. . .	5

	Both hemisph.	Amer. trop.	Islands and Am. Centr.	Islands and Am. Merid.	Islands.	Indig.	Total.
Nymphaeaceae . . .	. . .	1	. . .	. . .	. . .	. . .	1
Menispermaceae. . .	1	. . .	. . .	. . .	. . .	. . .	1
Papaveraceae	1	. . .	. . .	. . .	. . .	. . .	1
Cruciferae	. . .	. . .	. . .	. . .	. . .	1	1
Capparidaceae . . .	1	1	1	6	1	. . .	9
Leguminosae	16	3	9	16	2	1	41
Erythroxylaceae . .	. . .	. . .	. . .	1	. . .	. . .	1
Zygophyllaceae . . .	1	1	. . .	1	1	1	5
Rutaceae.	. . .	. . .	. . .	2	2	. . .	4
Simarubaceae. . . .	1	. . .	. . .	. . .	. . .	. . .	1
Burseraceae	. . .	1	. . .	1	. . .	1	3
Meliaceae	. . .	. . .	. . .	1	. . .	. . .	1
Malpighiaceae. . . .	. . .	1	. . .	3	. . .	. . .	4
Polygalaceae	. . .	. . .	1	1	. . .	. . .	1
Euphorbiaceae . . .	4	9	1	5	6	2	26
Anacardiaceae . . .	. . .	. . .	. . .	1	. . .	. . .	1
Celastraceae	. . .	. . .	. . .	1	1	1	3
Sapindaceae	2	. . .	. . .	1	. . .	. . .	3
Rhamnaceae	. . .	. . .	. . .	1	1	1	3
Vitaceae	. . .	1	. . .	1	. . .	. . .	2
Tiliaceae	2	. . .	1	1	. . .	. . .	3
Malvaceae	8	3	2	4	1	. . .	16
Sterculiaceae	2	1	1	1	. . .	. . .	4
Guttiferae	. . .	. . .	. . .	1	. . .	. . .	1
Cochlospermaceae . .	. . .	. . .	1	. . .	. . .	. . .	1
Flacourtiaceae . . .	. . .	. . .	. . .	. . .	1	. . .	1
Turneraceae	. . .	. . .	1	2	1	. . .	3
Passifloraceae. . . .	1	1	. . .	. . .	. . .	. . .	2
Loasaceae	. . .	1	. . .	. . .	. . .	. . .	1
Cactaceae	. . .	. . .	2	. . .	2	4	8
Lythraceae	2	1	. . .	. . .	. . .	. . .	3
Rhizophoraceae . . .	1	. . .	. . .	. . .	. . .	. . .	1
Combretaceae . . .	2	. . .	. . .	. . .	. . .	. . .	2
Myrtaceae	. . .	. . .	. . .	. . .	1	. . .	1
Oenotheraceae . . .	1	. . .	. . .	. . .	. . .	. . .	1
Umbelliferae	. . .	. . .	. . .	1	. . .	. . .	1

	Both hemisph.	Amer. trop.	Islands and Am. Centr.	Islands and Am. Merid.	Islands.	Indig.	Total.
Theophrastaceae . .	. . .	. . .	. . .	. . .	1	. . .	1
Sapotaceae	. . .	. . .	. . .	. . .	1	. . .	1
Loganiaceae	. . .	1	. . .	. . .	. . .	. . .	1
Apocynaceae	. . .	. . .	. . .	1	. . .	. . .	1
Asclepiadaceae . . .	2	. . .	. . .	1	. . .	1	4
Convolvulaceae . . .	9	5	5	9	. . .	. . .	25
Hydrophyllaceae . .	. . .	1	. . .	. . .	. . .	. . .	1
Borraginaceae . . .	2	5	3	2	1	. . .	11
Verbenaceae	3	3	2	2	2	. . .	11
Labiatae	3	1	. . .	. . .	. . .	. . .	4
Solanaceae	3	1	1	3	. . .	. . .	7
Scrophulariaceae . .	. . .	2	. . .	2	. . .	. . .	4
Bignoniaceae	. . .	1	. . .	1	. . .	. . .	2
Acanthaceae	1	. . .	2	2	. . .	. . .	3
Myoporaceae	. . .	. . .	. . .	1	. . .	. . .	1
Rubiaceae	1	4	4	3	2	. . .	13
Cucurbitaceae . . .	1	1	. . .	1	. . .	. . .	3
Compositae	3	3	4	5	3	2	20
Total	113	80	42	106	44*c*	25	394
	192		37*a* | 5¹)	84*b* | 22²)			
			148				
			a + *b* + *c* = 166³)				

¹) 5 in Americ. Centr.
37 in Americ. Centr. + Antill.

²) 84 in Americ. Merid. + Antill.
22 in Americ. Merid.

³) Antill.

From the preceding list will be seen that in the three Dutch West Indian Islands 394 wild plants occur; of these 25 are indigenous, 44 Curaçao, Aruba and Bonaire have in common with the Antilles only, 84 with the Antilles and South America, 37 with the Antilles and Central America, 5 with Central America only and 22 with South America only. Besides 80 plants are found in

the three islands which grow in the whole of tropical America and 113 which are also found in the Old World.

The following list shows the numerical distribution of the species, occurring in the three islands, over the principal families. For comparison also the numbers for Margarita have been given; the numbers of plants, occurring in the Dutch Islands as well as on Margarita, are placed between brackets.

	Curaçao, Aruba, Bonaire.	Margarita.	
Leguminosae	41	65	(16)
Gramineae	35	25	(10)
Convolvulaceae	25	11	(4)
Euphorbiaceae	24	31	(16)
Cyperaceae	23	14	(2)
Compositae	20	30	(10)
Malvaceae	16	13	(8)
Borraginaceae	11	15	(12)
Rubiaceae	13	17	(4)
Verbenaceae	11	19	(6)
Capparidaceae	9	12	(9)
Amarantaceae	9	13	(6)
Cactaceae	8	11	(3)
Solanaceae	7	23	(2)
Nyctaginaceae	6	4	(3)

From this list and still more from the Systematical Part itself appears how in the three Dutch West Indian Islands many families are only represented by a single genus and often by only one species and that, on the whole, only a few genera occur with a large number of species.

The number of species, found on each of the three islands, is given in the following list.

	Curaçao.	Aruba.	Bonaire.	Total.
Total number	357	213	239	394
Antilles plants only	40	25	31	44
South Amer. plants only . . .	20	12	14	22
Indigenous	22	14	18	25

Hence the ratios of total number of the three groups are approximately as 360 : 220 : 250. The present author knows no reason why this should be so; probably there is no connection with the ratio of the surfaces of the islands which is as ± 360 : 119 : 153.

Taking into consideration all the wild plants, except those which are also found in the Old World and in North and South America, the three Dutch Islands share 106 plants or 25 % more with South than North America and 42 plants or 10 % more with Central than North America.

Comparing these numbers with the corresponding ones for the flora of Portorico [1]), where they are 15 % and 7 %, we see that the Dutch West Indian Islands contain relatively more Central and South American plants than Portorico, although this island has already a fairly large number of South American plants. What Urban says (p. 681): „dass die Flora von Portorico die stärksten Beziehungen zu Süd-Amerika aufweist", holds still more for Curaçao, Aruba and Bonaire.

Moreover we see that in the Dutch W. I. Islands 22 species or 11 % occur which are besides only found in South America, while for Portorico these numbers are 6 species or 0.3 %.

This clearly proves that the flora of the three Dutch W. I. Islands has a much greater resemblance with that of South America than the Flora of Portorico has with the South American Flora. All this refers only to the numerical distribution of the plants, as given in the lists.

With regard to the flora of Portorico we cannot make comparisons as to the plants, determining the vegetation. Our discussion in the Third Part Section C will show, however, that the flora of Curaçao, Aruba and Bonaire shows in many respects strong tendencies towards that of the Antilles.

1) I. Urban, l. c., pp. 680, 681.

CHAPTER II

DISTRIBUTION OF THE PLANTS KNOWN ON THE ANTILLES ONLY ENUMERATED IN THE FIRST PART.

	Florida.	Bermud.	Baham.	Cuba.	Jamaica.	Haïti.	Portorico.	St. Thomas.	St. Jan.	St. Croix.	Anguilla.	St. Martin.	Saba.	Barthélemy.	St. Eustatius.	St. Kitts.	Barbuda.	Mont Serrat.	Antigua.	Guadeloupe.	Dominica.	Martinique.	St. Lucia.	St. Vincent.	Barbados.	Grenada.	Tobago.	Trinidad.	
Cymodocea manatorum . . .	—	—	—	×	×	×	×	×	—	×	—	—	—	—	—	—	—	—	—	×	—	×	—	—	—	—	—	—	Cur.
Halophila Baillonis	—	×	—	—	—	—	×	×	—	—	—	—	—	—	—	—	—	—	—	×	—	×	—	—	—	—	—	—	Cur.
Andropogon contortus . . .	—	—	—	—	—	×	—	—	—	—	—	—	—	—	×	—	—	—	×	×	—	—	—	—	—	—	—	—	Cur.
Panicum distantiflorum . . .	—	—	—	×	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Cur.
Bouteloua Humboldtiana . .	—	—	—	×	×	×	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Cur., Ar.
Aristida Swartziana	—	—	—	—	×	—	—	—	—	—	—	×	×	—	×	—	—	—	—	—	—	—	—	—	—	—	—	—	Cur., Ar., Bon.
Eragrostis Urbaniana . . .	—	—	—	—	—	—	×	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Cur., Ar., Bon.
Mariscus brizaeus.	×	—	×	×	—	—	—	×	—	—	—	—	—	—	—	—	—	—	—	×	—	—	—	—	—	×	—	—	Cur., Ar., Bon.
Mariscus capillaris	—	—	—	×	×	×	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Cur., Bon.
Mariscus planifolius	—	—	—	—	—	—	×	—	—	—	—	—	—	—	—	—	—	—	×	×	×	×	—	×	—	×	—	×	Cur., Ar., Bon.
Torulinium filiforme	—	—	×	×	×	×	×	×	—	×	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Cur., Ar.
Bulbostylis floccosa	—	—	—	×	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Cur., Bon.
Coccoloba diversifolia . . .	—	—	×	×	×	×	×	×	—	×	—	—	×	—	×	—	—	×	×	×	×	×	×	—	×	—	—	—	Cur., Ar., Bon.
Amarantus polygonoides . .	×	—	×	×	×	×	—	×	—	×	—	×	×	×	×	—	—	—	×	—	—	—	—	—	—	—	—	—	Cur., Ar., Bon.

	Florida.	Bermud.	Baham.	Cuba.	Jamaica.	Haïti.	Portorico.	St. Thomas.	St. Jan.	St. Croix.	Anguilla.	St Martin.	Saba.	Barthélemy.	St. Eustatius.	St. Kitts.	Barbuda.	Mont Serrat.	Antigua.	Guadeloupe.	Dominica.	Martinique.	St. Lucia.	St. Vincent.	Barbados.	Grenada.	Tobago	Trinidad.	
Lithophila muscoides . .	–	–	×	×	–	–	–	–	–	–	–	×	×	×	×	×	–	–	×	×	–	×	–	–	–	–	–	–	Cur., Ar., Bon., Marg.
Portulaca phaeosperma .	–	–	–	–	–	×	×	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	Cur.
Capparis jamaicensis . .	×	–	×	×	×	×	×	×	×	×	×	×	×	×	×	–	–	–	×	×	–	×	–	–	×	–	–	×	Cur., Ar., Bon., Marg.
Caesalpinia ciliata . . .	–	–	–	–	–	–	–	–	–	–	–	×	×	×	×	–	–	–	×	×	–	×	–	–	–	–	–	–	Cur., Bon.
Galactia rubra	–	–	–	–	–	–	–	–	–	–	–	×	×	–	×	×	–	–	×	×	×	×	–	–	–	–	–	–	Cur., Bon.
Guaiacum sanctum . .	×	–	×	×	–	×	×	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	Cur., Ar., Bon.
Fagara flava	–	×	×	–	×	×	–	–	×	–	–	–	–	–	–	–	–	×	–	×	–	×	×	–	–	–	–	–	Bon.
Pilocarpus racemosus . .	–	–	–	×	–	–	×	–	×	–	–	–	–	–	–	–	–	×	–	×	–	×	–	–	–	–	–	–	Ar.
Phyllanthus polycladus .	–	–	–	–	–	–	×	–	–	–	–	–	–	–	–	–	–	–	–	×	–	–	–	–	–	–	–	–	Cur., Bon.
Croton flavens	–	–	×	–	–	×	×	×	×	–	–	×	×	–	×	–	–	–	–	–	–	–	–	–	–	–	–	–	Cur., Ar., Bon., Marg.
Argithamnia candicans .	–	×	–	×	×	×	×	×	×	×	–	×	–	×	–	–	–	–	–	–	–	–	–	–	–	–	–	–	Cur., Ar., Marg.
Bernardia corensis . . .	–	–	–	–	–	×	–	–	–	–	–	×	–	×	×	–	–	–	–	×	×	×	–	–	×	×	–	–	Cur., Bon.
Acalypha Poiretii . . .	–	–	–	–	–	–	–	×	–	–	×	×	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	Cur., Ar., Bon.
Maytenus Sieberiana . .	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	×	Bon.
Krugiodendron ferreum .	×	–	×	–	×	×	×	×	×	×	–	×	–	×	×	–	–	–	–	×	×	×	–	×	–	–	–	–	Cur., Bon.
Gossypium hirsutum . .	–	–	–	–	–	–	–	–	–	antill.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Samyda dodecandra . .	–	–	–	–	–	×	×	×	–	×	–	×	–	×	×	–	–	–	×	–	–	–	–	–	–	–	–	×	Cur., Bon.
Piriqueta ovata. . . .	–	–	–	–	–	×	×	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	Cur., Bon.
Jacquinia barbasco. . .	–	–	–	×	×	×	×	×	×	–	–	×	–	×	×	–	–	×	–	×	×	–	–	×	×	×	×	–	Cur., Ar., Bon.

	Florida.	Bermud.	Baham.	Cuba.	Jamaica.	Haïti.	Portorico.	St. Thomas.	St. Jan.	St. Croix.	Anguilla.	St. Martin.	Saba.	St. Barthélemy.	St. Eustatius.	St. Kitts.	Barbuda.	Mont Serrat.	Antigua.	Guadeloupe.	Dominica.	Martinique.	St. Lucia.	St. Vincent.	Barbados.	Grenada.	Tobago.	Trinidad.	
Bumelia obovata . . .	—	—	—	—	×	×	×	×	—	×	—	×	×	×	×	—	—	×	×	×	—	×	×	—	—	—	—	—	Cur., Ar., Bon., Marg.
Beureria succulenta . .	—	—	×	×	×	×	×	×	×	×	×	×	×	×	×	—	×	—	×	×	×	×	×	×	—	×	×	—	Cur. Ar., Bon.
Tamonea curassavica . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	×	—	—	—	—	—	—	—	—	—	Cur.
Vitex umbrosa	—	—	—	×	×	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Cur.
Antirrhoea acutata . .	—	—	—	—	—	—	—	—	—	—	×	—	—	—	—	—	—	—	—	×	—	—	—	—	—	—	—	—	Cur., Ar., Bon.
Morinda Royoc.. . . .	—	—	—	×	×	×	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Cur., Ar., Bon.
Gundlachia corymbosa .	—	—	—	—	—	—	×	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Cur., Ar.
Isocarpha oppositifolia. .	—	—	×	—	×	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	×	Cur., Ar., Bon., Marg.
Pectis humifusa . . .	—	—	—	—	—	×	×	×	×	×	×	×	×	×	×	×	—	—	×	×	×	×	×	×	×	—	—	—	Cur., Bon.

These lists admit no other conclusion than that the very generally distributed plants, mostly shrubs or trees, occur abundantly in the islands Curaçao, Aruba and Bonaire, particularly Coccoloba diversifolia, Capparis jamaicensis, Croton flavens, Jacquinia barbasco, Bumelia obovata, Beureria succulenta; from which would follow that the vegetation of these islands strongly resembles that of the Antilles.

CHAPTER III

Distribution of the plants only known from South America and Curaçao, Aruba and Bonaire.

Bromelia lasiantha	Cur.	Arub.			Venezuela.
Schomburgkia tibicinis	Cur.		Bon.		Honduras.
Triplaris coriacea	Cur.				Barcelona, Caracas.
Portulaca venezuelensis	Cur.	Arub.	Bon.	Marg.	Venezuela.
Capparis linearis	Cur.	Arub.		Marg.	Venezuela.
Capparis tenuisiliqua	Cur.		Bon.	Marg.	Venezuela.
Pithecolobium platylobum		Arub.			St. Martha, Venezuela.
Dalea phymatodes	Cur.				Venezuela.
Aeschynomene falcata	Cur.				Brasilia, Amer. Merid., Bolivia.
Geoffraea superba	Cur.		Bon.		Amer. Austr.
Phaseolus longepedunculatus	Cur.	Arub.	Bon.		Brasilia.
Bursera tomentosa	Cur.	Arub.	Bon.		Nova Granata, Venezuela.
Trichilia trifolia	Cur.				Cumana.
Malpighia punicifolia	Cur.	Arub.	Bon.	Marg.	North S. America.
Serjania curassavica	Cur.	Arub.	Bon.		Nova Granata.
Omphalophthalmus ruber	Cur.	Arub.	Bon.		Nova Granata.
Jacquemontia cumanensis	Cur.		Bon.		Nicaragua, Venezuela.
Jacquemontia evolvuloides	Cur.		Bon.		Br. Guiana, Brasilia, Bolivia, Parag., Arg.
Stachytarpheta sanguinea		Arub.			Brasilia.
Scoparia annua	Cur.	Arub.	Bon.		Brasilia.
Tecoma chrysantha	Cur.	Arub.	Bon.		Venezuela.
Machaonia Ottonis	Cur.		Bon.		Venezuela.

Among these there are some which give a typical aspect to the vegetation. These are dealt with in the Third Part Section C.

CHAPTER IV

Distribution of the indigenous plants from Curaçao, Aruba and Bonaire.

Andropogon curassavicus . .	Curaçao.		
Chloris leptantha	Curaçao.	Aruba.	Bonaire.
Chloris Suringari	Curaçao.		
Eragrostis Urbaniana . . .	Curaçao.	Aruba.	Bonaire.
Bulbostylis floccosa pumilio .	Curaçao.		Bonaire.
Agave Trankeera	Curaçao.	Aruba.	Bonaire.
Agave vicina		Aruba.	
Agave vivipara	Curaçao.		
Ficus Brittonii	Curaçao.		Bonaire.
Pisonia bonairensis	Curaçao.	Aruba.	Bonaire.
Greggia Urbaniana		Aruba.	
Kallstroemia curta	Curaçao.	Aruba.	
Bursera bonairensis	Curaçao.	Aruba.	Bonaire.
Phyllanthus Euwensii . . .	Curaçao.	Aruba.	Bonaire.
Croton curassavicus	Curaçao.		
Maytenus Versluysii	Curaçao.		Bonaire.
Condalia Henriquezii. . . .	Curaçao.		Bonaire.
Casearia bonairensis	Curaçao.	Aruba.	Bonaire.
Cereus repandus	Curaçao.	Aruba.	Bonaire.
Cephalocereus lanuginosus . .	Curaçao.	Aruba.	Bonaire.
Melocactus spec.	Curaçao.	Aruba.	Bonaire.
Opuntia tunoides	Curaçao.	Aruba.	Bonaire.
Opuntia elatior	Curaçao.		Bonaire.
Metastelma Boldinghii . . .	Curaçao.		Bonaire.
Melampodium bonairense . .	Curaçao.		Bonaire.
Pectis brachycephala. . . .		Aruba.	

Only a smal number of these plants give a typical aspect to the vegetation and occur so abundantly that they are an important factor in imparting to the flora of these islands a character of its own. See on this point Third Part, Section C.

THIRD PART

Section C. The vegetation of Curaçao, Aruba and Bonaire

CHAPTER I

NOTES ON THE ASPECT OF THE VEGETATION OF CURAÇAO, ARUBA AND BONAIRE.

The general impression of the vegetation of the islands Curaçao, Aruba and Bonaire is that of a dry country, where thorny shrubs and cactuses predominate and more or less compete with each other.

When, e.g. on Bonaire we climb one of the hills of the Western part, we see there in their purest, intact condition the pretty thick bushes of shrubs, from which tree-shaped Cereus species rise to a great height.

Since everywhere in the three islands a strong N.E. monsoon blows incessantly, the climate is rather dry and there is generally not much variation between high and low, also the vegetation has everywhere a rather uniform aspect.

Excepting a few less exposed parts and the higher tops of Curaçao and Bonaire, the whole vegetation may be said to have a more or less xerophile character; in many places where the soil is covered bij hardly any humus, as on the numerous limestone table-lands, it becomes a very poor vegetable cover, made up chiefly of Cactaceae, some Rubiaceae and Euphorbiaceae with sparse Gramineae; a scanty cover is also found on the diabase hills in the East of Curaçao and in the Northern middle part of Aruba, where a few Gramineae, a poor Corchorus and Heliotropium shrubs form the widely scattered vegetation. In the more sheltered parts or where more humus is found and cattle does not graze off everything, the whole surface is covered with rather low shrubs and low trees, among which especially Leguminosae prevail; nearly everywhere the soil is clearly visible and not covered by a connected vegetation.

In the lower parts, in the neighbourhood of the „Hofjes", meadows are often found and the plant-cover is more coherent.

In the sheltered parts tree-growth is more prominent and where shrubs are found Acacia tortuosa is always noticed; Cactuses

are more or less predominant in the landscape and together with the shrubs give it a uniform type, only modified by variations in the numerical ratio in which the plants occur. This will make it sufficiently clear that in the Leeward Islands differences in the vegetation types as exist on the Windward Islands are not to be expected. The type of vegetation on the Leeward Islands might be generally described as a **Croton** vegetation, here as on the Windward Islands determined by plants like Croton, Acacia, Lantana, Melochia, Opuntia, Melocactus, to which for the Leeward Islands may be added a number of other plants, as will appear from the further description. On the Leeward still more than on the Windward Islands this type of vegetation cannot be distinctly separated from the litoral vegetation which only near the salt-pans assumes a character of its own by the occurence of Mangrove plants.

In many parts of the Islands culture or traces of former culture are found; also ruderal plants are found everywhere, among which a large number of tropical cosmopolitans. A genuine original vegetation is only found in the higher parts.

We saw that in general there is some difference in the vegetation, depending on shrubs or herbs being more prominent; a division according to the occurrence or non-occurrence on calcareous soil and a characterisation of these vegetation types is possible in exceptional cases only. So we do not or hardly ever find on calcareous soil:

Panicum velutinosum,
Pisonia bonairensis,
Capparis Breynia,
Capparis linearis,
Trichilia trifolia,
Spondias Mombin.

On the other hand we always or nearly always find on lime:

Sesuvium portulacastrum,
Fagara monophylla,
Phyllanthus polycladus,
Metopium Brownei,
Rhacoma crossopetalum,
Tournefortia gnaphalodes,
Antirrhoea acutata.

Of these two groups Capparis Breynia is characteristic for the vegetation outside the lime and Rhacoma crossopetalum and Antirrhoea acutata for lime.

Now, since a large number of other plants abound as well on lime as outside it, without being restricted to either of the two soils, it will be understood that only in a few cases and exactly by the last named plants, when these occur in large quantities, we can settle whether a caleareous or a non-caleareous vegetation is present.

As the result of these observations we have:

A **litoral vegetation**, difficult to separate from the principal form the **Croton-vegetation**; this latter is determined by Acacia and Croton and has either a Capparis type op a Rhacoma-Antirrhoea type. In the higher parts this Croton-vegetation changes into a more forestlike type; in general the predominant Cactuses are found in the lower parts, although on Bonaire also some hills are covered with them. The characteristic Rhacoma type is entirely absent on Aruba, as this plant does not occur there.

The vegetation on Aruba receives a peculiar aspect through Pithecolobium platylobum, which occurs there in very large numbers, especially in the mountainous part, while on Curaçao and Bonaire Randia aculeata forms a very important constituent of the vegetation.

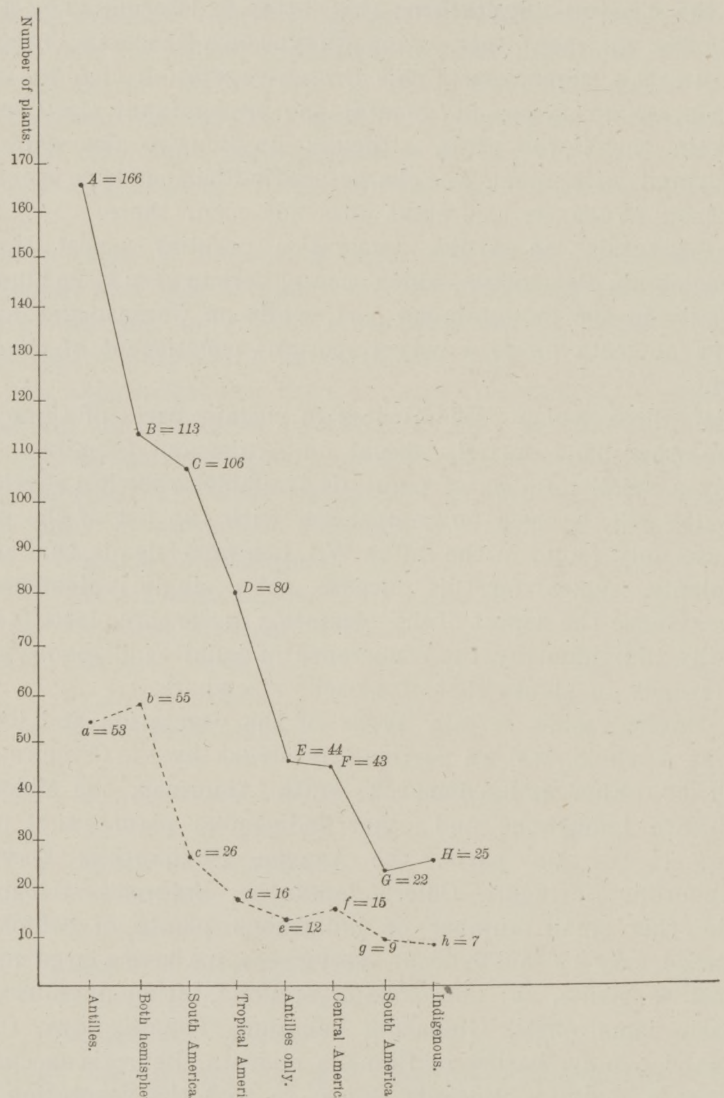
Acacia villosa which predominates in certain parts of Curaçao is on the other hand entirely absent on Aruba and Bonaire.

If only a small number of plants is available to settle a vegetation type, it will be seen on comparison with the list of the plants that are only found in the Dutch W.I. Leeward Islands, that among the plants, typical for this purpose, not a single indigenous one occurs. Hence the aspect of the vegetation in the three Islands is not typically individual by the occurrence of definite indigenous plants but depends on plants that also occur elsewhere.

Now leaving aside certain types of the vegetation and looking at it as a whole, we are particularly struck by the Cereus species which ar either indigenous or South American, the Melocacti, which are indigenous and other indigenous plants that predominate in certain parts, the Agaves, Phyllanthus Euwensii, Peltophorum Suringari, Chloris leptantha, Eragrostis Urbaniana. Beside this small number of indigenous plants of which the Cactaceae may be said to occur everywhere, we have a large number of Antilles plants, as: Coccoloba diversifolia, Lithophila muscoides, Capparis jamaicensis, Guaiacum sanctum, Fagara flava, Croton flavens, Jacquinia barbasco, Bumelia obovata, Beureria succulenta, Antirrhoea acutata, Morinda Royoc, so that the vegetation is in complete harmony with the flora of the Antilles.

The following graphical representation shows the numbers of different species in relation to their distribution and their share in determining the aspect of the vegetation.

The continous line joins the numbers relating to the total number of occurring plants, the dotted one joins the corresponding numbers referring to the numbers of plants, conspicuous in the aspect of the vegetation in the Islands.



Hence:

$$A : a = 3{,}1$$
$$C : c = 4{,}1$$
$$D : d = 5$$
$$E : e = 3{,}7$$
$$G : g = 2{,}4$$

These equations show as well as the general shape of the curves that:
if we compare the total number of plants with the number of those that determine the vegetation, this latter number is relatively smaller with the South American plants than with the indigenous Antilles plants, smaller again with these than with the plants growing in the Antilles and for these again smaller than with the indigenous South American plants.
So we conclude that the influence of the South American flora is strongest; we saw (p. 139) that also numerically this influence is stronger on the flora of the Dutch W. I. Islands than on that of Portorico.
Still I should conclude from what I have personally seen and from the tables about the distribution of the Antilles plants and of the purely South American ones, that the outward appearance of the vegetation, in spite of the typical Cereus species which are either indigenous or South American and indigenous plants like Casearia bonairensis, Phyllanthus Euwensii, is chiefly due to the Antilles plants.
To this should be added, however, that among the typically South American plants there are a number which, although they do not form a typical part of the vegetation, still occur in particularly interesting spots, those namely where culture has least intruded and which ar most inaccessible. Such are: Triplaris coriacea, Capparis linearis, Tecoma chrysantha, Capparis tenuisiliqua.
Now these are exactly plants which occur in St. Martha and in the part of South America which geologically (see p. 129) related to the three Dutch Islands Curaçao, Aruba and Bonaire.

CHAPTER II

DESCRIPTION OF THE VEGETATION OF CURAÇAO, ARUBA AND BONAIRE.

It appeared in Ch. I, p. 149 that in the three Islands no sharp demarcation lines can be drawn between the various types of vegetation. For this reason I shall not give an enumeration of the plants, belonging to the different vaguely distinguished regions, but prefer to describe some twenty-eight spots in various parts of the islands, following entirely the locally collected notes.

Curaçao.

The Riff.

This extends near Willemstad on the West side along the coast and consists of coral-lime with calcareous sand. It contains a number of ruderal and typical litoral plants along the sea-coast; the small lagunes are rich in Laguncularia racemosa, Avicennia nitida and Rhizophora Mangle; Philoxerus vermicularis occurs there as a herb together with Sesuvium portulacastrum; also an occasional Cyperacea and Heliotropium curassavicum. Morinda Royoc as a very low shrub together with Euphorbia thymifolia occurs frequently on the lime grounds, while Conocarpus erecta forms whole complexes; also Gundlachia corymbosa and Suriana maritima form green globular groups, while Erithalis fruticosa with its shining leaves and Acacia tortuosa with its sharp prickles are very frequent; the Acacia itself reaches the height of a tree here.

Round the smaller water complexes and salt-pans we find in large numbers Batis maritima and Salicornia ambigua, together again with Laguncularia racemosa, Conocarpus erecta and Suriana maritima. Further on, on the higher parts, we also frequently meet Cordia cylindrostachya, while an occasional tree rises high above the shrubs, as Thespesia populnea. Also Coccoloba uvifera is in some places conspicuous by a somewhat greater height.

Leaving the lower parts we see on the slightly higher lime grounds besides numerous Cactuses especially Jatropha gossypifolia, while Caesalpinia coriaria and Haematoxylon Brasiletto with Rhacoma crossopetalum form the higher thicket of shrubs.
In combination with a great many Phyllanthus Euwensii, Beureria succulenta, Croton flavens and Cordia globosa they form a vegetation which has entirely the aspect of the Croton vegetation, with already an occasional Randia in it.
The plant-growth on these lime hills agrees entirely with the typical lime hill vegetation in all parts of Curaçao, of which as a specimen I shall describe:

The lime hills near St. Martha.

When we descend to the sea from the top of one of the lime terraces near it, we are particularly struck by the abundance of high shrubs or low trees like Malpighia, Guaiacum officinale, while Croton flavens with Phyllanthus Euwensii, Randia aculeata, Bursera tomentosa, Caesalpinia coriaria, Haematoxylon Brasiletto, Bursera simaruba are the principal constituents of the pretty dense thickets of shrubs, with Euphorbia thymifolia and especially Capraria biflora at the bottom.
Nearer the sea, somewhat lower on the incline, Lantana involucrata, Bumelia obovata and Croton vegetation become prominent and finally Agave vivipara with Cactaceae.
Especially in the part West of St. Martha the lime hills are highly overgrown and tree-like forms become more prominent.
Similar in its general character to the above mentioned lime hills, but in its details somewhat different is the plant-growth on the

Kabrietenberg near Beekenburg.

Climbing this fairly high lime hill from the land-side we meet again the rather dense shrubs, among which we notice Malvastrum spicatum, Melochia tomentosa, Sida, Croton flavens, Cordia cylindrostachya, Lantana camara; a very dense shrub-growth compared with the much more scantily overgrown parts of Curaçao. Beureria succulenta and Acacia tortuosa rise above these shrubs together with Haematoxylon Brasiletto and Machaonia Ottonis; in places where the shrubs are less dense we find the soil pretty thickly covered with Tephrosia cinerea, Heliotropium humile, Sida, Chloris, Mariscus fuligineus, Hyptis pectinata and Paspalum glabrum, while Ipomoea winds through everywhere.
A few Bursera bonairensis and Antirrhoea acutata form again, together with a large number of Casearia bonairensis and Haematoxylon Brasiletto, the higher shrubs or stick out with Hippo-

mane mancinella, Tecoma chrysantha, while also Croton niveus is conspicuous by its shining leaves amidst Cordia alba, Cordia cylindrostachya and Crescentia Cujete.

More even lime grounds are very numerous in Curaçao; they contain chiefly plant combinations such as I described for the two calcareous districts mentioned.

We next describe

The calcareous district near Fontein.

On a slope, close to a deep cleft, Bursera, Randia aculeata, Beureria succulenta, Caesalpinia coriaria, Acacia villosa, Acacia tortuosa, Phyllanthus Euwensii, Croton flavens, Jatropha urens with its very strong stinging hairs, Capparis cynophallophora, Crescentia Cujete, Malpighia, Machaonia Ottonis and a few Triplaris coriacea form the high thicket of shrubs. Similar to this is

The calcareous district near Siberie.

It has mainly the same plants, only the following are conspicuous by their large numbers: Rhacoma crossopetalum, Coccoloba diversifolia, while in more open parts Heliotropium and a number of grasses cover the soil. Croton niveus, Malpighia and especially many Cephalocereus lanuginosus are together with Guaiacum officinale and Condalia Henriquezii the principal plants, while here Metopium Brownei is already one of the tallest trees.

The lime district near Savonet.

Here the soil is more open in many places, the shrubs are less high, so that Evolvulus, Heliotropium, Croton glandulosus, Sida, and especially Sporobolus argutus are conspicuous; as a lower shrub we see Kramera ixina; here, as in the above mentioned regions, Cereus and Opuntia are seen everywhere in varying numbers, while Cereus repandus is very frequent; on the grounds towards the sea are many bare parts again, where Paspalum glabrum is conspicuous and Cordia cylindrostachya is frequent with Conocarpus erecta and forms whole complexes; there is also found (the only place known to me) Amoreuxia palmatifida; Jacquinia barbasco and Caesalpinia coriaria often stand quite isolated, all very much with their tops in one direction by the wind.

As typical lime regions we have still the high lime table-lands on the top of Ronde Klip and Hieronymusberg.

Ronde Klip.

Here we meet a shrub-vegetation consisting of Cordia cylindrostachya, Coccoloba diversifolia, Haematoxylon Brasiletto, Rhacoma crossopetalum, Jacquinia barbasco, Erithalis fruticosa, Metopium Brownei, Antirrhoea acutata, Condalia Henriquezii and Beureria

succulenta; also Machaonia Ottonis and Bursera occur there. On the ground grows not much more than a few Euphorbia thymifolia and Phyllanthus polycladus.

The lime table-land on Hieronymusberg.

This contains a similar vegetation, only somewhat poorer; here, however, Guaiacum officinale and Guaiacum sanctum are conspicuous, besides Phyllanthus Euwensii and Casearia bonairensis, Acalypha Poiretii and Pisonia bonairensis.

Very divergent in its plant-growth by the presence of some forms which are entirely lacking in other places is the

Christoffelberg.

At its base we find again the strongly developed Croton vegetation of the lower hilly country, which besides Cactuses also contains many Croton flavens, Jatropha gossypifolia, Acacia villosa, Haematoxylon Brasiletto, Cordia cylindrostachya, Jatropha urens, Acacia tortuosa, Melochia tomentosa, Randia aculeata and Phyllanthus Euwensii. Also the lower Sida species, Indigofera suffruticosa, Convolvulaceae and Opuntia curassavica are found. Higher up this vegetation remains, but more Coccoloba diversifolia, Myrtaceae and Capparis linearis appear, while Bromelia lasiantha often covers the ground. Of trees we now see Machaonia Ottonis and Tecoma chrysantha, Pisonia fragrans, Bumelia obovata and Capparis Breynia, while Haemataxylon Brasiletto becomes more prominent; also Maytenus Sieberiana, Fagara monophylla, Jacquinia barbasco, Erythroxylon havanensis. At a height of about 200 metres Coccoloba diversifolia becomes the principal tree; we also notice the Schomburgkia tibicinis and Trichilia trifolia, but still the impression is that of a luxurious Croton vegetation. Acacia tortuosa is still frequent here and also Phyllanthus Euwensii, while Vitex umbrosa and Clusia rosea give a peculiar aspect to the vegetation on the higher parts. On the top Ficus Brittonii, Clusia rosea, Maytenus Sieberiana, Triplaris coriacea are frequent, among which Tecoma chrysantha, Caesalpinia coriaria and many Lantana camara, Cordia cylindrostachya and Gundlachia corymbosa.

So the higher parts especially have a rather different vegetation. The mountainous complex Behoenda and surrounding parts do not reach the same height but in their plant species show much resemblance with the Christoffelberg. The only conspicuous plant I noticed there was Casearia bonairensis; besides the bush is somewhat higher and denser in Behoenda than on the lower parts of Christoffelberg.

The poorest vegetation is found on the barer non-calcareous hills,

which are chiefly found in the Eastern part of Curaçao. As a specimen I choose

The Hills near Blauw.

On the almost bare ground stand widely scattered low small plants of Evolvulus sericeus and Heliotropium humile, Aristida Swartziana, Tragus racemosa, Paspalum glabrum, Sida procumbens. The same sort of vegetation is found on

The Hills near Davelaar.

These are almost quite bare and show small complexes of somewhat higher Acacia villosa, Croton flavens and Caesalpinia coriaria, but for the rest the only flora is formed by Bouteloua Humboldtiana and Aristida Swartziana, small plants of Jatropha gossypifolia, Evolvulus sericeus, Corchorus hirsutus, Tephrosia cinerea, some Cereus plants, Sida procumbens and Diodia rigida. When on these hills more Acacia tortuosa and some other shrubs develop, they are more overgrown. I mention as a specimen:

The Hills near Malpais.

Here is a rather dense shrub-growth of Croton flavens, Phyllanthus Euwensii, between which Cereus griseus and high shrubs of Acacia tortuosa; especially Acacia villosa abounds here, while Caesalpinia coriaria, Haematoxylon Brasiletto and a few Casearia bonairensis belong to the higher forms with Bumelia obovata, Randia aculeata and Myrtaceae; an occasional Guaiacum officinale is also found on such grounds.

As a more central low hilly part we mention:

The hills between Wacao and Dokterstuin.

The ground is covered with Chloris, Sida, Cassia glandulosa, Aristida Swartziana, while also Krameria ixina occurs, and the following shrubs, sometimes in dense masses: Acacia villosa, Beureria succulenta, Croton flavens, Haematoxylon Brasiletto, Lantana camara, Malpighia; amidst these more overgrown hills we see again more bare ones, having a vegetation similar to that described above. In some places it becomes an almost pure Coccoloba diversifolia bush, in others Haematoxylon Brasiletto prevails with Beureria succulenta, while occasionally also Machaonia Ottonis is frequent; Pithecolobum unguis-cati, Randia aculeata and also Vitex umbrosa occur on the more densely overgrown hills; in other places Cordia cylindrostachya is plentiful, while Crescentia Cujete and Trichilia trifolia also occur on these hills. Like elsewhere Cactaceae abound, athough they are not so predominant here as in many parts of Bonaire.

Aruba.

As respresentative for the vegetation of the lower calcareous parts of Aruba I choose

The country near Manshebo.

The coral-lime soil is very bare here and scantily overgrown. Melocacti and Cereus griseus prevail with Aristida Swartziana, Euphorbia thymifolia, Opuntia and fairly numerous Jatropha gossypifolia; an occasional Prosopis juliflora is somewhat higher than the other plants. Jatropha urens is frequent here. Of the grasses Cenchrus echinatus, Eragrostis Urbaniana, Anthephora hermaphroditica, Paspalum glabrum and Bouteloua Humboldtiana are noticed; besides Lithophila muscoides, Heliotropium curassavicum, Sesuvium portulacastum, Capraria biflora and Scoparia annua as lower herbs. As shrubs or trees we have widely scattered Conocarpus erecta, Suriana maritima, Erithalis fruticosa, Bumelia obovata, Coccoloba uvifera and Beureria succulenta which nowhere form a dense mass. On the low dune formations Tournefortia gnaphalodes abounds. As an example of a more elevated lime district we mention:

The calcareous table-land near Fontein.

Here the soil is very bare in some places or covered with a fairly dense mass of shrubs of Latana camara and Cordia cylindrostachya; Prosopis juliflora is abundant and Aristida Swartziana covers the ground; whole fields are densely overgrown with Antirrhoea acutata. Above these shrubs Jacquinia barbasco and often whole complexes of Peltophorum Suringarii rise somewhat higher, while this dense mass of shrubs is further formed by Beureria succulentia, Capparis, Crescentia Cujete, Guaiacum officinale, Bursera simaruba, Bumelia obovata and Cordia alba.

On spots where the vegetation is less high see besides Opuntia many Pilocarpus racemosus and Croton flavens, other complexes being formed by Phyllanthus Euwensii and Casearia bonairensis. On the higher part, especially near **Seroe Kadoesji** we also find Croton niveus, Tecoma chrysantha, Bumelia obovata, Cordia alba, Jacquinia barbasco and Beureria succulenta, which form a true forest there. Also Melocacti occur everywhere. As an example of a somewhat different vegetation on chalk table-lands we mention:

The calcareous table-lands near Belashi.

Here again we find a more or less rich Croton vegetation. In the bare parts the vegetation on the ground consists of Dactyloctenium aegyptium, Euphorbia thymifolia, Eragrostis ciliaris, Torulinium

filiforme, Cyperus uncinatus, Portulaca halimoides, Lithophila muscoides, Sida supina, Spermacoce tenuior, Physalis and Pilea herniarioides; shrubs and trees are represented by Cereus griseus Cephalocereus lanuginosus, Jatropha gossypifolia, Phyllanthus Euwensii, some Caesalpinia coriaria, Capparis; also Guaiacum sanctum occurs here amidst fairly high Croton flavens, Lantana involucrata, Casearia bonairensis, Bursera tomentosa, Melochia tomentosa and Malpighia, while also Agave vivipara is frequent amidst Cereus and Opuntia; sometimes it even forms with these latter the only cover of the lime soil.

A higher hill than the former is:

Mirlamar.

It shows entirely the typical Croton vegetation with Croton flavens, Casearia bonairensis, Beureria succulenta, Bursera simaruba, between which also Schoepfia Schreberi, Bumelia obovata, Caesalpinia coriaria, many Pithecolobum platylobum and Malpighia, Capparis linearis, Bursera tomentosa, Peltophorum Suringari, Tecoma chrysantha, Guaiacum officinale and some, but not many, Acacia tortuosa. In many places the shrub vegetation is little developed and the ground is then covered by herbs and low shrubs of which a number of ruderal plants attract notice, like: Physalis, Spigelia anthelmia, Hyptis pectinata, Commelina virginica, Sida supina, Mitracarpus villosus, Spermacoce tenuior, Turnera pumilea, Elytraria squamosa, Bouteloua aristidoides, Evolvulus alsinoides, Stylosanthes hamata, Pectis. Of the Cactaceae Cereus griseus and Cephalocereus lanuginosus are conspicuous. In the whole hilly complex of Mirlamar and Jamanota Pithecolobium platylobum is very prominent, especially in the flowering season, while also Malpighia forms large complexes. Poorer than on Mirlamar and its surroundings is the vegetation of

The Hills near Andikurie.

These are barer and we find on them only solitary trees of Coccoloba diversifolia, Capparis Breynia, Capparis jamaicensis, Caesalpinia coriaria and Beureria succulenta. The hills are sparsely covered with low plants of Croton flavens, Acalypha, Opuntia, Bouteloua aristidoides, Croton ovalifolius, Heliotropium humile, Sporobolus argutus. Much less developed, if possible, is the vegetation on

The Hills in the N.W. part.

Here is hardly any cover but Aristida Swartziana, Bouteloua aristidoides, Euphorbia thymifolia, Paspalum glabrum, Lithophila muscoides with here and there a few complexes of Cordia cylindrostachya. Cereus and Opuntia also occur everywhere, though only in small quantities.

Bonaire.

For a description of the vegetation of the lower lime regions on Bonaire I choose:

The country round Kralendijk.

Many ruderal plants grow here, e. g. Parthenium Hysterophorus. The general impression is that of a poor Croton vegetation, consisting of Acacia tortuosa, Prosopis juliflora, Croton flavens, a few Crescentia Cujete, Bursera simaruba, Cordia alba and Caesalpinia coriaria; the ground is covered with Elytraria squamosa, Sida, Chloris, Dactyloctenium aegyptium, Eragrostis ciliaris, Sporobolus argutus, Anthephora hermaphroditica, Eragrostis Urbaniana. A vegetation somewhat similar to this, but without ruderal plants we find in

The district near the Southern salt pans.

Near the sea we see Conocarpus erecta, Avicennia nitida, Suriana maritima and besides Salicornia ambigua and Sesuvium portulacastrum; in other places we find whole masses of Metopium Brownei, whose appearance reminds one of Hippomane bushes. At a greater distance from the sea the Croton vegetation becomes more prominent, Lantana involucrata being very conspicuous and predominating in some places. Cereus is not so conspicuous here, but we find many Haematoxylon Brasiletto, Coccoloba diversifolia, Antirrhoea acutata, Croton flavens, Waltheria americana, also Jacquinia barbasco. All the shrubs here are low, however, and widely distant. On the ground we find Euphorbia thymifolia, Paspalum glabrum, Aristida Swartziana, Eragrostis ciliaris. On other spots Krameria ixina is more prevalent with Cordia cylindrostachya, while Melocacti are again very numerous. The vegetation with higher shrubs reminds us of the more elevated lime regions, of which as a specimen we may take:

The lower parts of the lime regions along the road from Rincon to Kralendijk.

A dense Croton vegetation, chiefly consisting of Beureria succulenta, Capparis jamaicensis, Bursera sumaruba, Prosopis juliflora, Haematoxylon Brasiletto, Crescentia Cujete, Cordia cylindrostachya, Capparis Breynia, Bursera bonairensis, Jacquinia barbasco, Malpighia, Randia aculeata, Caesalpinia coriaria, while Sida, Eragrostis ciliaris, Euphorbia thymifolia form the vegetation of the ground. In some places we find Krameria ixina, while many Evolvulus occur with Ipomoea among the other low plants.

On the calcareous soil near Bolivia we find a still denser Croton vegetation. The ground is there in some places densely covered with Spermacoce tenuior, Pectis, Pappophorum, Sida, Aristida Swartziana, Croton ovalifolius, the higher shrubs being mostly Jacquinia barbasco, Bursera simaruba, Randia aculeata, Malpighia, Bursera tomentosa, Cordia cylindrostachya, Capparis jamaicensis, Caesalpinia coriaria, Haematoxylon Brasiletto. On the ground we find many Panicum lachnanthum, Krameria ixina, Eragrostis ciliaris. In other places Rhacoma crossopetalum and Coccoloba diversifolia are the principal shrubs, between which Pisonia bonairensis, Bumelia obovata, Guaiacum sanctum, Beureria succulenta, Metopium Brownei, Casearia bonairensis and a few Tecoma chrysantha as trees. Among the lower plants we notice Euphorbia thymifolia, Morinda Royoc, Mariscus fuligineus, Corchorus tomentosus. On the Northern slopes of these lime terraces Clusia rosea is very conspicuous.

As an example of the vegetation on the higher lime table-lands I choose:

The lime table-land near Montagna.

Here a dense and high forest of shrubs is found, parts of which remind us of a thick wood. Sometimes we meet Randia bushes without any underwood; besides we have here many Bursera bonairensis, Bursera simaruba and Bursera tomentosa, Casearia bonairensis, Bumelia obovata, Capparis jamaicensis, Machaonia Ottonis, while Lantana camara and Croton flavens together with Rhacoma crossopetalum form the underwood or the chief constituent in most places. Also Euphorbia cotinifolia grows here, while of the Cactaceae especially Cephalocereus lanuginosus is conspicuous. On the ground we have Corchorus hirsutus, Sida, Eragrostis ciliaris, Aristida Swartziana, Elytraria squamosa, while Mariscus fuligineus and Ernodia litoralis are also found here.

As a higher hill not consisting of lime, we mention

The Joewa hills and surroundings.

We reach these through high dense bushes of shrubs of Randia aculeata and Machaonia Ottonis, between which hardly any other trees or shrubs occur. On the ground are Spermacoce tenuior, Elytraria squamosa, Physalis, Opuntia curassavica. On other spots we find more Capparis jamaicensis, Capparis cynophallophora, Prosopis juliflora, between which many Cephalocereus lanuginosus, Haematoxylon Brasiletto. We further find again whole complexes of Croton flavens between which Casearia bonairensis, Lantana camara, Maytenus Versluysii, Cordia alba, after which we come again

amidst many Capparis cynophallophora. Also Phyllanthus Euwensii is frequent in some places with Cordia alba and many Coccoloba diversifolia. In the higher parts we find lower shrubs and Rivina humilis, Datura Metel, Opuntia, Dactyloctenium aegyptium, Eragrostis ciliaris, Physalis and other more ruderal plants prevail. The highest mountain on Bonaire is:

Brandaris.

We reach it again through a dense forest of shrubs with rather high trees, Phyllanthus Euwensii, Capparis cynophallophora, Maytenus Versluysii, Pisonia bonairensis, Capparis jamaicensis and Croton niveus being frequent, Randia aculeata sometimes predominant. When we ascend the mountain we see in many places more scattered shrubs, among which the same plants are chiefly found with Caesalpinia coriaria, Haematoxylon Brasiletto and Acacia tortuosa. On the top are very few trees, excepting Crescentia Cujete, Casearia bonairensis and Capparis, the vegetation on the ground consisting there of Acalypha Poiretii, Euphorbia thymifolia, Physalis, while on other spots a dense mass of Coccoloba diversifolia is found. On the top and slope of Brandaris also the little fern Dryopteris concolor occurs.

The lower parts of Bonaire outside the lime district.

These show also a Croton vegetation with Acacia tortuosa, Croton flavens, Melochia tomentosa, Phyllanthus Euwensii, Randia aculeata as the most frequent shrubs, while also Capparis cynophallophora, Capparis jamaicensis, Croton niveus, Malpighia punicifolia, Pithecolobium unguis-cati are often found. The ground is covered with ruderal plants, the same as in other parts of the island.

CHAPTER III

A comparison of the vegetation of Curaçao, Aruba and Bonaire with that of Margarita.

As Margarita is an island not far from Curaçao, and very elaborately studied with regard to its flora [1]), it is certainly worth while to compare the floras of these four islands.
Johnston gives on page 297 a short comparison of the flora of Margarita with that of Curaçao, as it was known in 1909. He arrives at the conclusion, based on the still very incomplete data at his disposal (Suringar's journey) that of the 117 known Curaçao plants 50 had not yet been found on Margarita.
At present it appears from my investigations in the Systematical Part that of the 399 wild plants in the Dutch West Indian Islands 150 have also been found on Margarita. So we have:

Curaçao, Aruba, Bonaire	+	Margarita	150
Curaçao, Aruba, Bonaire			249
		Margarita	440
399		590	

These numbers diverge considerably from those given by Johnston (p. 302), namely 400 for Curaçao, of which 100 not on Margarita. From these numbers and more still from the figures of list p. 138, appears that the flora of Margarita is numerically very different from that of the Dutch W. I. Islands.
Margarita is much larger than the Dutch Islands. It is not only its size, however, which causes the larger number of species but still more the circumstance that higher mountains occur there, reaching a height of 800 metres.
Although Johnston says (p. 301) that his flora probably does not

1) J. R. Johnston: Flora of the Islands of Margarita and Coche.
Contributions from the Gray Herbarium of Harvard University. New Series. No. XXXVII (Printed June 1909).

contain more than $^3/_4$ of the real number of species, yet it seemed to be desirable to compare this flora more closely with the plants, mentioned in my Systematical part.
Johnston's flora has 157 genera, not including Filices, which are not found on Curaçao, Aruba and Bonaire and of these some 70 have no representatives at a higher altitude than 300 metres, while about 80 genera are only found above 300 metres.
So, if we compare the floras of the four islands we must not include these genera, occurring above 300 metres.
Overagainst these 70 genera of the lower parts which were found by Johnston and not by me, we have also some 70 which are found on Curaçao, Aruba and Bonaire but not on Margarita.
While the flora of Margarita mainly differs from that of the Dutch Leeward Islands by the occurrence of a peculiar flora in the higher parts, it appears that of the 36 wild indigenous Antilles plants which are also found on Margarita, only 8 occur in the Dutch Islands. So we have

Dutch Leeward Islands	+	Margarita	8
„ „ „			37
		Margarita	28

these numbers being for the South American indigenous plants

Dutch Leeward Islands	+	Margarita	2
„ „ „			20
		Margarita	38

These data prove to some extent that the Dutch Islands have more resemblance to the Antilles and less to South America than Margarita. We refer to what was said on page 129 about the geology of Margarita. As a further peculiarity we mention the very rare occurrence of grasses on Margarita, contrary to Curaçao, where many more species are found and where they are not scarce at all.
Cactaceae cover whole fields in Margarita and this agrees entirely with certain parts of Bonaire; the Bromeliaceae which are so conspicuous on Margarita play a subordinate part in the Dutch W. I. Islands. The typical tropical families like Melastomataceae, Aroideae, Piperaceae are entirely lacking in the Dutch Islands, contrary to Margarita.

As far as can be inferred from Johnston's descriptions (l. c. p. 278 ff.) the vegetation along the sea-coast is similar in type to

that of the Dutch Islands; Castela which occurs on Margarita is lacking in the Dutch Islands. Also the Mangrove vegetation is mainly the same. The interior lowland of Margarita is covered by a Croton vegetation, similar to that of the Dutch Islands, although in these latter Heteropteris and Sterophoma are absent and not quite the same Capparis species are found.
On the lower hills Capparis linearis is characteristic, which occurs in the Dutch Islands on the higher hills.
Above 300 metres we alraedy find on Margarita denser forests which cannot be compared with the vegetation of the Dutch Islands.

Without entering into details it must be observed that a fairly large number of plants, found in the higher parts of Margarita, also occur in the higher parts of the Dutch Islands St. Eustatius and Saba or are represented by related species.

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VERNACULAR NAMES.

Aardappel = Solanum tuberosum.
Adonis = Duranta erecta.
Alfalfa = Medicago sativa.
Amooro falso = Mentzelia aspera.
Angglo = Tribulus terrester.
Angglo boobo = Kallstroemia caribaea en Kallstroemia curta.
Arraroot = Maranta arundinacea.
Awakaati = Persea americana.
Bai no boolbee = Strumpfia maritima.
Bakooba = Musa paradisiaca.
Banaana = Musa paradisiaca.
Banaana die rif = Batis maritima.
Banaana sjimarón = Schomburgkia tibicinis.
Barba die jonkeman = Albizzia lebbek.
Barba die kadoesji = Tillandsia recurvata.
Barra blanko = Croton niveus.
Bassoora die lieber = Parthenium Hysterophorus.
Bassoora korraa = Melochia tomentosa.
Bassoora pleintsji = Sida spinosa var. angustifolia.
Bataata die poorko = Boerhaavea erecta, Boerhaavea coccinea and Boerhaavea paniculata.
Bataata die soembi = Solanum argillicolum.
Bataata djoekoe = Ceratosanthes corniculata.
Bataata doesji = Ipomoea batatas.
Bataata heel = Morinda Royoc.
Beembee = Portulaca oleracea.
Beembee sjimarón = Portulaca venezuelensis.
Beera = Guaiacum sanctum.
Begissima = Antigonon leptopus.
Behoekoe = Serjania curassavica.
Belladonna = Datura Metel.
Bell apple = Passiflora laurifolia.
Benboom = Moringa oleifera.

Bermuda ceder = Juniperus bermudianus.
Berrehein = Solanum Melongena.
Bessji die kalakoena = Coccoloba diversifolia.
Bessji die tinta = Passiflora suberosa.
Bessji igoeaana = Celtis Iguanaea.
Bessji kabrieto = Condalia Henriquezii.
Betoonika = Melochia tomentosa.
Bittere cassave = Manihot carthaginensis.
Blomtsji die kokaliesji = Clitoria ternatea.
Booloebarie = Guaiacum sanctum.
Boeraatsji = Pilocarpus racemosus.
Boetsji = Melocactus.
Boontsji die paaloe = Erythrina velutina.
Boontsji jangadoor = Vigna unguiculata.
Boontsji kabaai = Desmodium molle.
Boontsji karta = Erythrina velutina.
Boontsji palooma = Clitoria ternatea.
Boontsji streena = Parkinsonia aculeata.
Bosopaata = Dactyloctenium aegyptium.
Bossoea = Fagara monophylla.
Boulanger = Solanum Melongena.
Brak gras = Sporobolus argutus.
Brak gras saaloe = Cynodon dactylon.
Brazieja = Haematoxylon Brasiletto.
Breebee = Cereus repandus.
Breebee die poesji = Cephalocereus lanuginosus.
Bringga moosa = Jatropha urens.
Broeska = Cassia occidentalis en Cassia Sophera.
Broeska doesji = Cassia bicapsularis.
Broodboom = Artocarpus incisa.
Campessji = Haematoxylon Brasiletto.
Cassave = Manihot utilissima.
Cassave die moondi = Manihot carthaginensis.
Ceraasji maatsjoe = Trichilia trifolia.
Citroen = Citrus medica.
Curahout = Peltophorum Suringari.
Daalpeega = Mentzelia aspera.
Daabaroeieda = Pithecolobium platylobum.
Daader = Phoenix dactylifera.
Daatoe = Cereus griseus.
Dam maatsjoe = Clusia alba.
Dividivi = Caesalpinia coriaria.

Djoekoe = Caesalpinia ciliata.
Dreifi die lamán = Coccoloba uvifera.
Dreifi sjimarón = Coccoloba diversifolia.
Ekaakes = Chrysobalanus icaco.
Elefanti = Polygala angustifolia.
Fantasiea = Ceratosanthes corniculata.
Ficus = Ficus elastica.
Flaira = Jatropha gossypifolia.
Flamboyant = Poinciana regia.
Floor die sangger = Lantana camara.
Foema = Vitex umbrosa.
Foengfoeng = Desmodium molle.
Foengfoeng homber = Sida spinosa var. angustifolia.
Frikampeeuw = Opuntia tunoides.
Geelhout = Casearia bonairensis.
Giambo = Hibiscus esculentus.
Giambo sjimarón = Malachra alceifolia.
Gieni gras = Panicum maximum.
Goeaana = Beureria succulenta.
Goeaazoema = Guazuma ulmifolia.
Goeajaaba = Psidium Guajava.
Goeaako = Mikania scandens.
Goeamaatsjoe = Peireskia bleo.
Goorda kapaa = Desmodium molle.
Granaatappel = Punica Granatum.
Grijze manggel = Conocarpus erecta.
Haabriman = Dactyloctenium aegyptium.
Hielo die diaabel = Cuscuta americana.
Hoerihoeri = Capparis cynophallophora.
Hooba = Spondias Mombin.
Horse radish = Capparis Breynia.
Indjoe = Prosopis juliflora.
Jaaga = Pithecolobium platylobum.
Jamaani tobakkoe = Clitoria ternatea.
Jaatoe = Cereus griseus.
Jeerba die glas = Ipomoea incarnata.
Jeerba die kaania = Thalassia testudinum.
Jeerba die koetsjóe = Mariscus brizaeus.
Jeerba die kooko = Cyperus esculentus.
Jeerba die lamóen = Andropogon Schoenanthus.
Jeerba die leeba = Waltheria americana.
Jeerba die leetsji = Euphorbia spec.

Jeerba die piepa = Boerhaavea scandens.
Jeerba die seeroe = Croton ovalifolius.
Jeerba die seis = Indigofera suffruticosa.
Jeerba die sonja = Dalea phymatodes.
Jeerba fieni = Sporobolus argutus.
Jeerba foékoe = Sida spinosa.
Jeerba froemingga = Chenopodium ambrosioides.
Jeerba holee = Ocimum gratissimum and Ocimum sanctum.
Jeerba igoeaana = Celtis Iguanaea.
Jeerba kaaja = Gynandropsis pentaphylla.
Jeerba kaneeuw = Portulaca halimoides.
Jeerba kaneeuw maatsjoe = Portulaca venezuelensis.
Jeerba kanggreeuw = Boerhaavea scandens.
Jeerba kareeta = Croton glandulosus.
Jeerba koessientsji = Lithophila muscoides.
Jeerba koleebra = Sanseviera guineensis.
Jeerba konijntsji = Portulaca halimoides.
Jeerba kraabo = Croton lobatus.
Jeerba maisji sjikietoe = Mariscus fuligineus.
Jeerba mosterd = Capparis cynophallophora and Capparis Breynia.
Jeerba pataaka = Cissampelos Pareira.
Jeerba plaata = Evolvulus alsinoides.
Jeerba poesji = Portulaca halimoides.
Jeerba ragadiesji = Rhynchosia minima.
Jeerba staasia = Bouchea Ehrenbergii.
Jeerba stinki = Datura Metel.
Jeerba tónka = Gliricidia sepium.
Jeerba tsjieko = Evolvulus alsinoides.
Jeerba tsjoebaatoe = Croton ovalifolius.
Johnsongras = Andropogon sorghum var. halepensis.
Juffrouw = Opuntia tunoides.
Kaaka die poesji = Opuntia curassavica.
Kaasjoe = Anacardium occidentale.
Kaasjoe die Surinaam = Eugenia javanica.
Kabeez die seeroe = Melocactus.
Kabeez indian = Melocactus.
Kabeez inglees = Melocactus.
Kabeez die mariekoe = Omphalophthalmus ruber.
Kaboeja die klimop = Cissus sicyoides.
Kaboeja die trankeer = Cissus sicyoides.
Kaboeja igoeaana = Ipomoea muricata.
Kaboeja korraa = Cissus sicyoides.

Kaboeja makoetoe = Cardiospermum corindum and Cissus sicyoides.
Kadoesji = Cereus griseus and Cereus repandus.
Kadoesji die poesji = Cephalocereus lanuginosus.
Kadoesji spanjool = Cephalocereus lanuginosus.
Kajoeda = Anona palustris.
Kalabarie = Fagara flava.
Kalaloe = Amarantus tristis.
Kalaloe die poorko = Amarantus polygonoides.
Kalieber = Opuntia curassavica.
Kallebas rondo = Crescentia Cujete.
Kamaalia = Coccoloba diversifolia.
Kamaari = Coccoloba diversifolia.
Kamille sjimarón = Lippia reptans.
Kamoe = Mariscus brizaeus.
Kamoesji = Eleusine indica.
Kanja = Saccharum officinarum.
Karawaara = Cordia alba.
Karawaara spanjool = Cordia Sebestena.
Karisjoeri = Cordia cylindrostachya.
Karkidaaki = Phyllanthus Euwensii.
Karpaata = Ricinus communis.
Katoena = Gossypium hirsutum.
Katoena die seeda = Calotropis procera.
Katoenboom = Ceiba pentandra.
Kaubaati = Fagara monophylla and Krugiodendron ferreum.
Keedebéssji = Capparis linearis.
Kelki heel = Stenolobium stans.
Keneepa = Melicocca bijuga.
Kiebrahátsja = Tecoma chrysantha.
Kivieti = Croton niveus.
Klaas moelaato = Tournefortia volubilis.
Klap = Physalis angulata.
Koeieda = Prosopis juliflora.
Koeiegi = Prosopis juliflora.
Koeki indian = Agave vicina and Agave vivipara.
Koeki spanjool = Agave vicina.
Koetsjaara = Antirrhoea acntata.
Koetsjoe = Clusia alba.
Kokolodee = Heliotropium indicum.
Kokolodee sjimarón = Heliotropium curassavicum.
Kokorobaana = Tournefortia gnaphalodes.
Komtsji koe skotter = Asclepias nivea.

Kooko = Cocos nucifera.
Kooko die amiena = Cyperus esculentus.
Kopijk = Clusia alba.
Koroona die la birgi = Passiflora foetida.
Korta mán = Mariscus brizaeus.
Kruizebloem = Passiflora foetida.
Kwareel = Boerhaavea scandens.
Laabra = Pisonia bonairensis.
Larachá = Citrus.
Lamoentsji die Surinaam = Triphasia trifoliata.
Lamoentsji sjimarón = Triphasia trifoliata.
Leele = Randia aculeata.
Leengga die baaka = Spigelia anthelmia.
Leengga die tsoetsjoebi = Ceratosanthes corniculata.
Lemmetje = Citrus.
Lemoen = Citrus.
Lemoengras = Andropogon Schoenanthus.
Loanggo = Stemodia maritima.
Loembra blanko = Erithalis fruticosa and Croton niveus.
Loembra maatsjoe = Morinda Royoc.
Logwood = Haematoxylon Brasiletto.
Lokki lokki = Phyllanthus Euwensii.
Magdalena = Isocarpha oppositifolia.
Mahoebaari = Pisonia bonairensis.
Mahók = Swietenia Mahagoni.
Maisji grandi = Zea Mays.
Maisji grandi sjimarón = Commelina virginica.
Maisji raboe = Lippia reptans and Andropogon sorghum var. sativus.
Maisji sieete simàn = Andropogon sorghum var. sativus.
Maisji sjikietoe = Andropogon sorghum var. sativus.
Maisji tolalieka = Panicum velutinosum.
Makka pruim = Spondias purpurea.
Makoeraa = Abrus precatorius.
Maloieda = Solanum nigrum var. americanum.
Malohie = Andropogon Schoenanthus.
Mammeia = Mammea americana.
Mammootika = Momordica Charantia.
Mampoerietoe = Porophyllum macrocephalum.
Manggel = Conocarpus erecta.
Manggel blanko = Conocarpus erecta and Avicennia nitida.
Manggel die sabaana = Coccoloba diversifolia and Triplaris coriacea.
Manggel tán = Rhizophora Mangle.

Manggo = Mangifera indica.
Manhage = Cordia Sebestena.
Mankeman seeboe = Tephrosia cinerea.
Manoeweeri = Amoreuxia palmatifida.
Manzalienja = Hippomane mancinella.
Manzalienja boobo = Euphorbia cotinifolia and Metopium Brownei.
Maraaka = Passiflora foetida.
Maria bo kee beendeemi = Dactyloctenium aegyptium.
Marie die paaloe = Tillandsia recurvata.
Marie pompoen = Omphalophthalmus ruber.
Marihoeri = Manihot carthaginensis.
Markoesa = Passiflora foetida.
Masjiboeri = Pisonia bonairensis.
Mata galienja = Acacia villosa.
Mata komblees = Ammannia latifolia.
Mata paaloe = Ficus Brittonii.
Mata piskaa = Jacquinia barbasco.
Mata poorko = Boerhaavea erecta, Boerhaavea coccinea and Boerhaavea paniculata.
Mata ratón = Gliricidia sepium.
Meloen = Cucumis Melo.
Melon die seeroe = Melocactus.
Mispoe = Achras sapota.
Moesti sámbo = Pisonia bonairensis.
Montánja = Desmanthus depressus.
Moora = Mentzelia aspera.
Naranja = Citrus.
Neboeha = Passiflora suberosa.
Nigieta die Malpais = Acacia villosa.
Nopal = Opuntia tuna,
Oebaada = Acacia tortuosa.
Oenkoe = Cyperus articulatus.
Olieba = Bontia daphnoides and Capparis jamaicensis.
Olieba maatsjoe = Capparis Breynia.
Olyfi = Bontia daphnoides.
Oreegano = Cordia globosa.
Orengga = Moringa oleifera.
Otaheite = Thespesia populnea.
Oude wijven = Vigna unguiculata.
Paaloe die bessji = Condalia Henriquezii.
Paaloe die Bonaire = Casearia bonairensis.
Paaloe die heeroe = Machaonia Ottonis.

Paaloe die lamán = Coccoloba diversifolia.
Paaloe die leetsji = Bumelia obovata.
Paaloe die loora = Capparis cynophallophora.
Paaloe die moora = Chlorophora tinctoria.
Paaloe die takki = Geoffraea superba.
Paaloe doesji = Clorophora tinctoria.
Paaloe hóekoe = Jacquinia barbasco.
Paaloe ploéta = Bumelia obovata.
Paaloe preetoe = Capparis Breynia
Paloe sieja doesji = Bursera simaruba.
Paaloe sieja maatsjoe = Bursera simaruba.
Paaloe zapateero = Morinda Royoc.
Palmiet = Copernicia tectorum.
Pam die diaabel = Morinda Royoc.
Papaai = Carica Papaya.
Paragras = Panicum molle.
Passoota = Chenopodium ambrosioides.
Patieja = Citrullus vulgaris.
Patieja die soembi = Solanum argillicolum.
Patieja sjimarón = Solanum argillicolum.
Peega peega = Mentzelia aspera.
Peega saaja boobo = Cenchrus carolinianus.
Peega saaja mohee = Cenchrus echinatus.
Peega saaja sjimarón = Krameria ixina and Mentzelia aspera.
Pessji pessji = Mentzelia aspera.
Piea die galienja = Eleusine indica.
Piea die galienia sjimarón = Panicum sanguinale.
Piea palooma = Portulaca halimoides and Portulaca venezuelensis.
Piea waarawaara = Dactyloctenium aegyptium.
Pienda = Arachis hypogaea.
Pienda sjimarón = Stylosanthes hamata.
Pieta = Agave sisalana.
Pieta die trankeer = Agave Trankeera.
Pieta vlas = Furcraea gigantea.
Pieterselie = Bidens cynapiifolius.
Pistool = Ruellia tuberosa.
Plaaka sjikietoe = Antirrhoea acutata and Rhacoma crossopetalum.
Pokhout = Guaiacum officinale.
Polber sjimarón = Argemone mexicana.
Polet die pieedra = Lithophila muscoides.
Pompoen = Cucurbita maxima.
Promente = Capsicum frutescens.

Raaba = Capparis cynophallophora and Capparis Breynia.
Raambessji = Celtis Iguanaea and Bumelia obovata.
Raboe die kabaai = Randia aculeata and Tournefortia volubilis.
Rais die pataaka = Cissampelos Pareira.
Rathania = Krameria ixina.
Ratoneera = Gliricidia sepium.
Red manggel = Coccoloba diversifolia.
Reseda = Lawsonia inermis.
Sabadieja = Leonotis nepetifolia.
Sagradoo = Chenopodium ambrosioides.
Salade andijvie = Lactuca intybacea.
Salaster = Moringa oleifera.
Salie = Heliotropium humile.
Sanggoéra = Hyptis suaveolens.
Savonetappel = Sapindus saponaria.
Schytnoot = Jatropha curcas.
Senneblaar = Cassia obovata.
Siea blanko = Bursera simaruba.
Siea korraa = Bursera bonairensis.
Sinte biebo = Aloe vera.
Sjangran = Opuntia tunoides.
Sjiengool = Jacquinia barbasco.
Sjimaróekoe = Malpighia glabra and Malpighia punicifolia.
Sjimaróekoe kaasjoe = Bunchosia nitida.
Sjimaróekoe maatsjoe = Malpighia punicifolia and Trichilla trifolia.
Sjonleena = Bouchea Ehrenbergii.
Sjonsjon = Passiflora foetida.
Sjosjolie = Sesamum orientale.
Skoobia = Scoparia annua.
Skop appel = Anona squamosa.
Skopèt = Ruellia paniculata and Ruellia tuberosa.
Soempienja die koleebra = Opuntia curassavica.
Soeroen die moondi = Crataeva gynandra.
Sorsaaka = Anona muricata.
Sosoro = Passiflora foetida.
Stakamahatsji = Rivina humilis.
Steenhout = Jacquinia barbasco.
Stokki = Capparis cynophallophora.
Stokvischhout = Haematoxylon Brasiletto.
Tabaako die piskadoo = Tournefortia gnaphalodes.
Takamahak = Bursera tomentosa.
Takki takki = Geoffraea superba.

Tamarijn = Tamarindus indica.
Tamarijn sjimarón = Cassia bicapsularis.
Tam maatsjoe = Clusia alba.
Tampanján = Cereus griseus.
Tantsji = Capraria biflora.
Teekoe = Bromelia lasiantha.
Teekoe die paaloe = Tillandsia utriculata.
Theebiek = Pectis febrifuga.
Theebiek maatsjoe = Pectis linifolia and Pectis prostrata.
Tjimitjimi = Argemone mexicana.
Tobakkoe = Nicotiana Tabacum.
Toemba raboe = Leucaena glauca.
Toena = Opuntia tunoides.
Toena spanjool = Opuntia tunoides.
Toetoeroetoé = Caesalpinia pulcherrima.
Tomati = Solanum lycopersicum.
Torra = Stemodia maritima.
Treesdeedee = Dalechampia scandens.
Trinaria = Bougainvillea spectabilis.
Trompet = Ipomoea nil.
Tsjananá = Evolvulus glaber.
Unguis die gaatoe = Mimosa distachya and Pithecolobium platylobum.
Unguis die poesji = Pithecolobium unguis-cati.
Unguis gaati = Pithecolobium unguis-cati.
Vier uur bloem = Mirabilis Jalapa.
Vijg = Ficus Carica.
Waabi = Acacia tortuosa.
Waada waada = Boerhaavea erecta, Boerhaavea coccinea and Boerhaavea paniculata.
Waada waada maatsjoe = Boerhaavea erecta, Boerhaavea coccinea and Boerhaavea paniculata.
Wajakaa = Guaiacum officinale.
Wajakaa maatsjoe = Guaiacum sanctum.
Wajakaa sjimarón = Guaiacum sanctum.
Wakoera = Randia aculeata.
Wándoe = Cajanus indicus.
Wareeroe = Cissus sicyoides.
Wareeroe kroes = Cissus trifoliata.
Watakeeli = Beureria succulenta.
Watakeeri = Beureria succulenta.
Watapaana = Caesalpinia coriaria.
Watapaana sjimarón = Acacia villosa.

Wild dividivi = Acacia villosa.
Wilde amandel = Terminalia Catappa.
Wilde salie = Croton flavens.
Wild komkommer = Cucumis Anguria.
Wild manggel = Pisonia bonairensis.
Wild trommelstok = Cassia bicapsularis.
Witte manggel = Conocarpus erecta.
Yucca amaara = Manihot carthaginensis.
Zandkokerboom = Hura crepitans.
Zeedreifi = Coccoloba uvifera.
Zijkatoen = Calotropis procera.

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PLATE I. *Ficus Brittonii* Bold.



Phot. I. BOLDINGH.

Plate II. *Pisonia bonairensis* Bold.



Phot. I. Boldingh.

PLATE III. *Bursera bonairensis* Bold.



Phot. I. BOLDINGH.

PLATE IV. *Phyllanthus Euwensii* Bold.



Phot. I. BOLDINGH.

Plate V. *Croton curassavica* Bold.



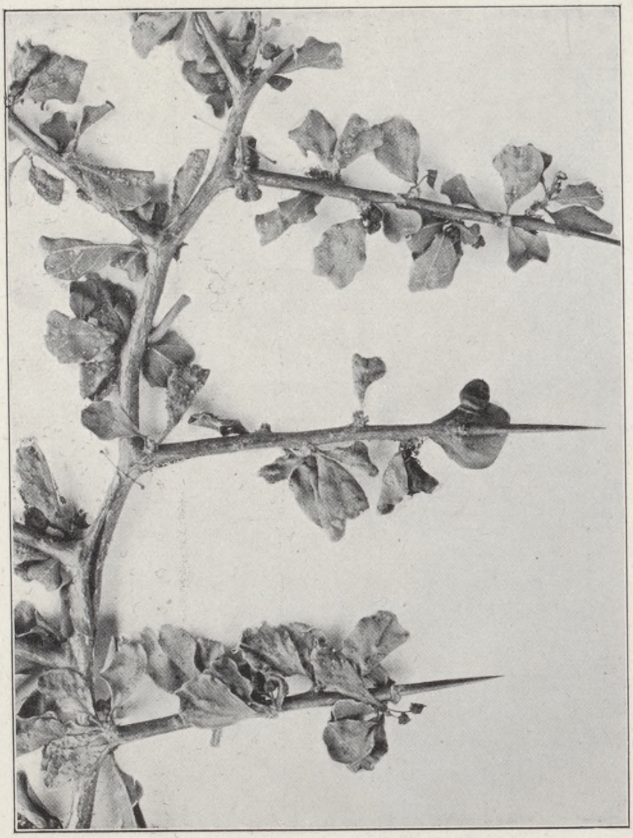
Phot. I. Boldingh.

Plate VI. *Maytenus Versluysii* Bold.



Phot. I. Boldingh.

Plate VII. *Condalea Henriquezii* Bold.



Phot. I. Boldingh.

PLATE VIII. *Casearia bonairensis* Bold.



Phot. I. BOLDINGH.

PLATE IX. *Melampodium bonairense* Bold.



Phot. I. BOLDINGH.



ARUBA.
CURAÇAO.
BONAIRE.
lowest calcareous soil.
middle calcareous plateau.
highest calcareous plateau.
non calcareous soil.
bays and lagoons.
Delin. I. BOLDINGH.
0
10
20
30 K.M.